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ABSTRACT

This third volume of a three-volume report of the National Commission for Manpower Policy on Public Service Employment (PSE) contains four papers prepared for the commission's use by various scholars in the field: "Evaluating the Economic Stimulus Package from an Employment and Training Perspective," by John Palmer; "Public Service Employment as Macroeconomic Policy," by Martin Neil Baily and Robert M. Solow; "Study of the Net Employment Effects of Public Service Employment--Econometric Analyses," by Michael Borus and Daniel Hamermesh; and "An Essay on Subsidized Employment in the Public Sector," by Harry Datz and Michael Wiseman. (BM)

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An Interim Report to the Congress of the
National Commission for Manpower Policy

Job Creation Through Public Service Employment

Volume III

Commissioned Papers

Report No. 6
National Commission for Manpower Policy
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U.S. DEPARTMENT OF HEALTH,
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PREFACE

The report of the National Commission for Manpower Policy on Public Service Employment consists of the findings and recommendations of the Commission together with the supporting documents listed in the Table of Contents which follows. As noted there, the full report is organized into three volumes. Volume I contains the Commission's findings and recommendations. It also includes an overview of the research completed as part of this study and a summary of the Commission's field reviews on PSE. Volume II contains the interim report of The Brookings Institution to the Commission based on their onsite monitoring of the program. Volume III contains the other papers prepared for the Commission's use by various scholars in the field.

The Commission wishes to thank its staff and all of its expert consultants for their work in making available the information and careful analysis on which the following findings and recommendations are based.

The Commission acknowledges with special thanks the outstanding contribution of Mr. Timothy Barrow, who served as chairman of its task force on public service employment, and his colleague Dr. John Porter. Mr. Patrick O'Keefe, Deputy Director of the Commission, provided excellent staff support.

These papers were written pursuant to contracts with the National Commission for Manpower Policy, Washington, D.C., 20005. The opinions expressed are those of the authors and should not be construed as representing the opinions or policy of the Commission or any other agency of the United States Government.

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EVALUATING THE ECONOMIC STIMULUS PACKAGE FROM AN EMPLOYMENT AND TRAINING PERSPECTIVE

BY

DR. JOHN PALMER

This paper was prepared for the National Commission for Manpower Policy. The author is a senior fellow of the Brookings Institution. The views expressed herein are his own and should not be attributed to other staff, officers, or trustees of Brookings, or the staff or members of the Commission.

EVALUATING THE ECONOMIC STIMULUS PACKAGE FROM AN EMPLOYMENT AND TRAINING PERSPECTIVE

The economic stimulus package proposed by President Carter and modified and passed by Congress in the spring of 1977 places heavy reliance upon selective employment programs to facilitate continued recovery from the recession and make greater inroads into structural unemployment. In addition to business and personal income tax cuts of $12 billion, and an increase in countercyclical revenue sharing grants of $1.4 billion for the second half of FY77 and FY78, it includes budget authority over current services levels for the same period of nearly $10 billion for employment-related programs. This authority is concentrated in public service employment, emergency public works, youth work experience, and various intensive training programs. All of these except the public works program are authorized under the Comprehensive Employment and Training Act (CETA). As a result outlays under CETA for FY78 are expected to rise from their prior current services level of about $5 billion to about $10 billion.

Some details on these activities are contained in Table 1. For the most part they are either new programs or major expansions of existing ones. Much of the public service employment (PSE) and all of the public works are in explicitly temporary programs, and are scheduled to be phased out in future years as the economic recovery proceeds. Congressional and administration intentions with respect to the future of the other outlay increases are unclear; however, these increases are likely to enter into the permanent base for future budget considerations.

Table 1. DETAILS ON SELECTIVE EMPLOYMENT-RELATED PROGRAMS IN THE ECONOMIC STIMULUS PACKAGE (DOLLAR FIGURES ARE APPROXIMATE COST OF AUTHORIZED EXPANSIONS FOR SECOND HALF OF FY77 AND FY78 OVER PRIOR CURRENT SERVICES LEVELS)

1. Public Service Employment ($4 b.) - The permanent CETA-Title II program is to be expanded from 50,000 to 125,000 positions and the temporary Title VI program from 200,000 to 600,000, both with an estimated unit cost of about $8,000. In accordance with the 1976 CETA amendments, all new slots under Title VI must be in projects of one year duration or less and go to workers who are long-term unemployed or AFDC recipients and members of low income families.

2. Public Works ($4 b.) - This money is in addition to the $2 b. appropriated last fall under the Public Works Employment Act of 1976. Although the entire $4 b. is authorized for FY77, the administration's projections are for outlays of approximately $2 b. in FY77-78 and the remaining in succeeding years. The distribution formula has been somewhat revised to further emphasize high unemployment areas.

3. Youth Work Experience ($1 b.) - This funding is for new CETA programs. It provides for a Young Adult Conservation Corps, modeled after the current Job Corps Civilian Conservation Centers, to be operated through agreement between DOL and DOA and Interior, for an urban counterpart, to be operated through CETA prime sponsors and for discretionary money for both prime sponsors and DOL to undertake various experimental activities designed to promote youth employment opportunities. Jobs will be primarily for unemployed, disadvantaged youth at an expected unit cost of $6,500. 72,000 slots are anticipated by the end of FY77 with an expansion to 154,000 within FY78.

4. Skill Training Improvement Program ($250 m.) - This program will be operated under CETA-Title III by prime sponsors and will move toward upgrading the quality of skill training under CETA, providing permanently displaced, experienced workers with new skills, meeting industry needs for specific skills and encouraging private sector participation in designing and operating employment programs. It will provide an expected 50,000 enrollment opportunities for the remainder of FY77 and first half of FY78 at an expected unit cost of $4,300.

(Continued on Next Page)

Table 1. Page 2.

5. HIRE ($120 m.) - This funding is to support 100,000 slots over a 12-month period under CETA-Title III. It is to be aimed at increasing private sector employment opportunities through the provision of financial incentives to major corporations to hire and train the long-term unemployed. Priority is to be given to Vietnam-era veterans, particularly those who are disabled.

6. Other ($250 m.) - This category includes an expansion of the Job Corps under CETA-Title IV and the Community Service Employment program for the aged under Title IX of the Older Americans Act. In addition, the Carter administration had requested $60 m. for an expansion of programs for migrants, apprenticeship, and Indians and the institution of a new veterans program under CETA-Title III. Congress instructed the administration to fund these programs from CETA discretionary money. The veterans program is to hire Vietnam-era veterans in state employment service agencies to provide outreach services and otherwise assist the employment efforts of other members of the same target group.

In addition to debate over the size and timing of the needed economic stimulus, there was considerable controversy within both the Administration and Congress over its composition. Some felt that more stress should be placed upon tax cuts, thereby emphasizing additional private sector jobs, which they believed would be more productive than additional subsidized public sector jobs. While they generally were not unmindful of structural concerns, they had strong doubts about either the ability of structurally oriented employment and training programs to be phased in and out in a timely fashion to serve countercyclical needs, or their likely effectiveness in dealing with structural unemployment if implemented rapidly and on a very large scale. Proponents of extensive use of such programs, on the other hand, argued that they would: be rapidly implemented; create more new jobs and jobs better targeted on those most in need than would tax cuts; provide highly valued public services; and also improve the future employment and earnings prospects of the program participants.1/

Clearly a major assessment and evaluation of this large expansion of expenditures on employment and training programs ought to be high on the agenda of the federal government. In addition to its general usefulness for guiding future fiscal and employment and training policies, such an effort, if undertaken promptly, might inform several critical programmatic decision points in the next few years. Among these are administration and Congressional

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1/ If Labor Secretary Marshall had not testified that 725,000 PSE jobs was all the CETA system could handle effectively by the end of FY78, Congress probably would have been disposed to expanding this part of CETA even more.

deliberations on the FY79 and FY80 budgets; the reauthorization of CETA; and the design of jobs programs under welfare reform.[2/]

At the heart of what controversy exists concerning employment and training programs is often a considerable ambiguity about likely program effects and specific progr performance objectives. Specification of these as early in the planning process as possible is essential, both to guide program design and implementation and to facilitate program evaluation. The purpose of this paper is to elaborate on this point, suggest the types of program impacts and objectives that ought to be of concern for these programs, and indicate some of the data sources and analyses that should be considered to assess program performance.

What Are the Program Effects of Concern?

The $64 question is how the effectiveness of these programs is to be judged one, two, or three years from now. Or, put more loosely, what are the impacts of these programs on which information should be sought? All of the programs are intended to serve countercyclical needs. Thus, it is desirable to assess their efficacy in this regard vis-a-vis other general expenditure increases or tax cuts. But many of the programs are also targeted on problems of structural unemployment, which implies a somewhat different set of concerns and objectives.

2/ CETA expires at the end of 1978 and a four-year reauthorization with some redesign will be sought by the administration. The administration's welfare reform proposal, the Program for Better Jobs and Income, calls for a new CETA title which would provide up to 1.4 million public service jobs for primary earners in families with children.

Taking into account both of these purposes, the most important information to be sought for those components of the stimulus package primarily intended to immediately increase employment appear to be the following:

(1) For a given increase in the deficit, how many net jobs are created and over what time period?

(2) What additional public and private output is being produced and of what value to society is it?

(3) Where are the jobs located and what effect are they having on local economies?

(4) What are the characteristics of the people obtaining the jobs?

(5) What are the effects on the future employment and earnings of specific target groups?

For programs that primarily offer training, information should be sought on the timing, number, and content of the slots as well as the characteristics of the trainees, any immediate increase in job opportunities which has resulted from the training, and the effects on trainees' future employment and earnings.

From a countercyclical perspective, (1) and (2) should be the key concerns. For a given impact on the deficit, selective employment programs, such as public works, public service employment, and work experience, have the potential to create more net jobs than other public expenditure increases, with both having greater effect than general tax cuts.[3] The indirect effects of all three, once the additional money is in the hands of businesses and consumers, are likely to be similar, but the initial injection of government expenditures directly purchases goods and services and creates some jobs in the process, while tax cuts do not. The more of the initial injection that goes directly into wages and salaries, the more jobs are likely to be created.

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[3] For more detailed discussion of the issues considered in the remainder of this section see the forthcoming Brookings Institution volume on job creation edited by this author.

Despite this potential superiority of employment programs for the number of net jobs created, there are three possible shortcomings that can render them less effective than alternative countercyclical policies. First, they may be too slow to phase in or out to meet the timing needs of countercyclical policy. Thus, they may not have their stimulative effects as soon as is desirable and may contribute to excessive inflationary pressures once the unemployment rate is down to more desirable levels. This is a criticism well-substantiated for the countercyclical public works programs of the 1960's and early 1970's.

Second, there is the well-known phenomenon (often called displacement) by which state and local governments use some of the federal grant money to support jobs they otherwise would have funded. (This is why it is essential to measure the net rather than gross job creation effects.) There is evidence that this has occurred in previous PSE programs, and it is also a distinct possibility for public works and youth work experience projects which are funded through grants to state and local governments. To the extent this happens, the employment programs would have no different countercyclical effects than an equivalent expenditure for general revenue sharing.

Finally, there is the possibility that the additional output directly produced by the employment programs will be worth substantially less than costs of producing it, and that the required resources, both labor and equipment, might otherwise have been more productively employed if alternative forms of fiscal stimulus had been used. This problem can be particularly acute when a local jurisdiction is given a relatively large sum of money which it must spend quickly for specific purposes. Thus the newspaper and Congressional hearings in early 1977 were replete with stories of the expenditure of portions of the first $2 billion appropriated under the Public Works Employment Act of 1976 for purposes which by no stretch of the imagination were important public needs. Also, when only workers with narrowly defined characteristics can be hired, and the services they perform must be on a short duration project basis rather than conventional public sector jobs--as is the case in CETA-Title VI--it is difficult to insure that the employment is productive. It is often argued that private sector jobs are likely to be more productive because they must meet the market test of consumers' willingness to pay for what is produced, whereas PSE does not even have to meet the normal political tests of regular public services.

Answers to questions (3)-(5) above take on more importance when employment programs are assessed from a structural perspective. Here one wishes to know to what extent the jobs are being provided in occupations or regions with particularly high unemployment rates, and for particular target groups--especially those whose long-term employment prospects are relatively poor. In addition, if they are targeted on such workers, it is hoped that the policies will enhance the post-program employment prospects of participants. Presumably this will depend to some extent on the length and nature of the work experience and on the amount and type of training and assistance for transition to regular employment involved. Information on the relationship between post-program employment outcomes and these kinds of program characteristics is desirable.

It is quite likely that the countercyclical and structural objectives of employment programs will be in partial conflict with each other. For example, fulfilling structural objectives requires that program participants be chosen from target groups comprising a much smaller pool than the total unemployed labor force. The types of jobs and work experience provided must be carefully chosen if they are to be relevant to improved regular employment opportunities for participants. Considerable supervision and on-the-job training, and assistance for transition to regular employment is likely to be necessary. None of these requirements are consistent with the rapid phasing in and phasing out of programs designed to provide highly valued output--characteristics which are necessary to meet countercyclical objectives. Rather they call for more careful design and slower implementation, with greater emphasis on the effects on selected target groups than on what is produced. Furthermore, although participants in structurally oriented programs generally should be limited in their tenure, those programs that are successful should not be forced to phase out; indeed, they should be expanded.

For this reason, if the designers and administrators of employment programs attempt to serve both countercyclical and structural objectives, the programs' performance may fall short of what would be feasible and desirable in each area. Any assessment of the economic stimulus package should be very sensitive to this concern. It is particularly likely to be a problem for the expansion of CETA-Title VI PSE since it is supposed to be rapidly implemented on a temporary basis, yet is narrowly focused on the structurally unemployed.

There may be a tendency to assess favorably various employment program components of the stimulus package if they appear to have some desirable structural effects even though their countercyclical performance is weak due to one or more of the three possible shortcomings discussed earlier. This should be resisted. Similar use of these types of programs in the future should be viewed with considerable skepticism if they do not compare favorably on countercyclical grounds with temporary tax cuts or other expenditure increases and also measure up to reasonable structural standards. This is because of the available alternative of relying more heavily upon temporary tax cuts and other expenditure increases for countercyclical purposes and moving more deliberately on the design and implementation of employment and training programs to maximize their favorable structural effects.[4/]

Establishing Performance Criteria

In addition to identifying the program effects of concern, it is also desirable in many instances to specify corresponding program performance objectives. There is often a considerable reluctance in Congress and even the executive branch to do this beyond the most general level. It is sometimes easier to develop a political consensus around a bill with several vague objectives, even though some in fact may be unattainable or mutually conflicting, than it is to rally support for one with fewer specific attainable objectives. Also, a program or policy is easier

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[4/] In theory this is the case; in practice, as recent events indicated, it may be difficult to convince Congress this is a viable alternative. But that is why greater information on the answers to the questions posed at the beginning of this section is so important.

to defend in retrospect if criteria against which it is to be judged are not too explicit. Finally, given the diversity of conditions that often exists in the environment in which the programs must operate (such as CETA prime sponsors' jurisdictions), it may be considered desirable to leave considerable discretion in the hands of local program administrators.

This reluctance to be more specific is understandable; however, it should be overcome to a greater degree than is now the case. More specific program performance objectives often would be in the interests of improved public policy. Insofar as is possible, such objectives ought to be set by policymakers in advance of program implementation, rather than left to analysts to guess afterward what the appropriate performance criteria ought to be. Doing so has the value of:

(a) Providing greater guidance to planners and administrators on priorities for program design and operation. This can be especially important where various goals might be in conflict. For example, if local prime sponsors are having difficulty expanding the CETA-Title VI program as rapidly as expected because of the narrowness of the target group, it would be helpful for them to know whether it is preferable to loosen eligibility criteria or slow down implementation.

(b) Developing performance goals for which program managers can be held accountable. Often objectives such as the timing of expenditures, the specific type of program activity within a general class, and the characteristics of program participants are under the direct control of program administrators. In such cases progress toward them can and should be monitored.

(c) Forcing policymakers to think more clearly about and reach greater consensus on appropriate criteria for evaluation. This, of course, is necessary after the fact, if judgments about the effectiveness of programs are to be made, but it is often an essential prior step to insure the collection of appropriate data during the program's operation.

In some instances appropriate performance objectives are specified in the law or are implicit in the language of administration proposals or Congressional authorizations and appropriations. Generally they are the ones presumed to be largely under the direct control of program administrators as mentioned in (b) above. In other instances, such as the goal of improving post-program employment opportunities or providing highly valued public output, setting a specific quantitative target would be unrealistic; however, the simple identification by policymakers of desired program consequences and their relative priorities would be very helpful.

What Analytic Approaches to Evaluation Might Be Taken

No one data source or methodology will be sufficient for monitoring and evaluating the various manpower components of the stimulus package.[5/] Nor could any assessment, no matter how well designed and executed, be

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[5/] Subsequent to the writing of this paper, four papers were commissioned by the Office of the Assistant Secretary for Policy, Evaluation and Research of DOL on methods and data needs for assessing from a macroeconomic perspective four components of the economic stimulus package--PSE, public works, revenue sharing, and the employment tax credit. These papers together with a summary should be available through the Government Printing Office by the summer of 1978.

expected to provide entirely satisfactory answers to all of the relevant questions. Nonetheless, by making use of program data and existing and already planned studies and adding some new ones, it should be possible to provide a considerable understanding of the consequences of the major policy initiatives. The Commerce Department's survey plans, the Department of Labor's Continuous Longitudinal Manpower Survey (CLMS), and two new Brookings studies, on CETA PSE for the Commission and on the aggregate effect of the stimulus package on several large cities, are most relevant here.[6]

The countercyclical consequences of tax cuts and revenue sharing grants have been and will continue to be of considerable interest to macroeconomists. Studies on the timing and magnitude of their effects on employment and GNP undoubtedly will be performed without any special steps being taken. While there is bound to be controversy about the conclusions of such studies, they will provide a range of likely effects which can be compared to those of alternative policies. As indicated earlier, however,

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6/ The Commerce Department has had a major study of countercyclical public works under way for some time now and has well developed plans for field surveys to collect data on the experience of the program initiated in early FY77 and expanded under the economic stimulus package. The Labor Department CLMS has been in effect since 1975. It collects data on a national sample of nearly 4,000 new CETA enrollees each quarter and re-interviews those who were in employability development and PSE programs 6, 18 and 36 months after initial program entry. The Brookings study for the Commission will be based upon two lengthy questionnaires concerning the general fiscal picture and PSE activities of a typical set of local prime sponsors, once in the fall of 1977 and six months later in the winter of 1978. A preliminary report of this study will be available from the Commission in early 1978 and a final one late in the year. DOL has provided funds to augment this study to permit an in-depth look at the major economic and governmental effects of all the grant programs in the economic stimulus package in eight to ten major cities.

the countercyclical effects of selective employment programs are more complex to assess. In addition to data on the timing of program expenditures and number of jobs directly supported, independent information on the extent of fiscal displacement and value of output is required.[7]

The Brookings study for the Commission is designed to shed light on the degree of fiscal displacement for the PSE programs and should provide considerable insight into the program decisions and budgetary machinations of prime sponsors in response to receipt of the CETA PSE monies. It will be based, however, largely upon information supplied by the prime sponsors and the appraisals of the interviewers, and will bracket only a six-month period. Thus, the results will be highly judgmental. For these reasons it should be complemented by continued and improved econometric studies along the lines of those which first highlighted the displacement problem. In both cases, efforts should be made to ascertain to what uses the freed up money is put by state and local governments. The overall stimulative and employment effects could vary considerably depending on whether this money is used to reduce taxes, retire debt, or increase other expenditures.

7/ As a first approximation, the indirect employment and GNP effects of employment program expenditures can be assumed to be the same as those of equivalent sized tax cuts. They can then be added to the direct effects to obtain totals. A more sophisticated analysis, however, would utilize information on the characteristics of employment program participants to ascertain what tax revenue increases and other transfer reductions might occur because of the employment program wages and how the consumption behavior of program participants might differ from that of the average person who would benefit from the first round of a tax cut. These are particularly important considerations when eligibility is limited to a narrow target group such as youth or low income and long-term unemployed persons.

Any sophisticated attempts to value the output of public works, public employment, and work experience programs are doomed to be highly unsatisfactory. The state of the art is simply inadequate, and expending considerable resources to collect detailed information for these purposes is not warranted. It would be desirable, however, for sufficient information to be collected to give a general picture of the nature of the output being provided. This would facilitate policymakers' subjective judgments of its worth and, it is hoped, bring about pressure for change where instances of clearly questionable projects are brought to light. Program data should not be depended upon for this purpose since it will be in the interest of program administrators to paint a much rosier picture of the usefulness of the services being provided than might actually be the case.

The Brookings and Commerce surveys will be helpful in this respect, but they should be scrutinized to ascertain the appropriateness of the level of detail and reliability of the information they will produce. It will probably be desirable to augment them with spot surveys and assessments specifically concerned with examining the operations and productivity of a representative set of projects.

The data and analysis needs for assessing the effectiveness of the programs in addressing structural objectives are in some regards simpler, and in others more complex, than for countercyclical concerns. First, it is primarily the DOL programs that are of concern.8/ Second, general information on the characteristics of program participants will be relatively easy to generate either

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8/ A major exception is the assessment of the regional effects of the public works projects.

through program data (management information systems) or the CETA Continuous Longitudinal Manpower Survey. Wherever possible, the latter probably ought to be relied upon for CETA programs administered through prime sponsors. This may require augmenting its size in order to have a reliable sample for smaller categorical programs such as STIP, HIRE, and the veterans outreach. New programs which will not be administered through prime sponsors, such as the federal portions of the youth work experience program, ought to have appropriate surveys designed to be fielded concurrently with program implementation.

The major challenge, however, is in analyzing the impact of the structurally oriented employment and training programs on the future employment and earnings of participants. Doing this with considerable reliability requires detailed pre- and post-program employment, earnings, and demographic data for a representative sample of program participants, as well as for an appropriate control group. Presumably the CLMS was designed with this in mind, but its usefulness for this purpose for the stimulus package programs should be carefully assessed. My suspicion is that, at least for the new youth work experience and categorical training programs, independent instruments will have to be developed.9/

9/ Control groups for comparison with CETA program participants are presumably to be constructed from the Current Population Survey or the Social Security Continuous Work History Sample. Whether or not this can be done for narrowly drawn target groups such as those under the expansion of Title VI, the youth work experience programs, and HIRE needs to be explored. If not, then an alternative technique for constructing appropriate control groups that will require new field surveys will have to be devised.

Aggregate information on the long-term effects of these employment programs might be useful for informing decisions on whether to discontinue or expand them. But, particularly for the relatively unstructured, large programs--PSE and youth work experience--the more important payoff is likely to come from evaluating the effectiveness of particular program characteristics and combinations of characteristics for various subgroups of the target population. There will not simply be "a" PSE and "a" youth work experience program in place, but hundreds, maybe thousands of specific projects, each with different characteristics. (For example, variations will exist in the degree of capital intensity and the on-the-job training content of the work, opportunities for advancement within the program, types and amount of support services provided, degree of assistance in making the transition to regular employment, and so forth.) Both of these endeavors represent major initiatives into relatively uncharted territory. They should be seized upon as opportunities for learning what works well and what does not and for whom.

A considerable amount of this will occur naturally in the field. But a systematic effort coordinated at the federal level would be likely to yield far more useful results. Ideally this would involve the detailed evaluation of a series of planned variations or controlled demonstrations. At the very least, several different types of PSE and youth work experience projects ought to be singled out for detailed scrutiny in order to assess both the quality of their operations and their long-term effects. This will require that special surveys of these projects be developed, including a longitudinal sample of program participants.[10]

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[10] Much of DOL's discretionary money under the new youth employment act is being expended on experimental projects which will have a built-in evaluation component.

PUBLIC SERVICE EMPLOYMENT AS MACROECONOMIC POLICY

BY

PROFESSORS MARTIN NEIL BAILY AND ROBERT M. SOLOW

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PUBLIC SERVICE EMPLOYMENT AS MACROECONOMIC POLICY

MARTIN NEIL BAILY AND ROBERT M. SOLOW

March 1978

Imagine an economy in recession. That should not be a difficult exercise for most of us. There is a possible ambiguity, but we shall mean by "recession" merely that things are not very good, not necessarily that they are getting worse. So 1977 was a recession year, according to our definition, although it was a better year than 1976, which was in turn a better year than 1975. All three were recession years, and the betting is that 1978 will be the fourth in a row.

The characteristic paradox of recession is the coexistence of idle resources and obvious uses for them. There is excess industrial capacity; and it is not obsolete or physically unusable, because six months or a year ago it was being used successfully, and with any luck it will soon be used again. There are unemployed workers who are not unskilled or unemployable; six months or a year ago they were employed, and a year from now many of them will be working again. In fact many of the unemployed have been laid off by employers who expect to hire them back later, when idle plant and equipment will also be reabsorbed into productive use.

In a recession, if you ask unemployed workers whether they would be willing to work at the sort of jobs they normally do, at the prevailing wage for that job, most will answer Yes. If you ask employers why they do not hire such workers, they will reply, in effect, that they could not sell the additional goods that the new workers would produce, at the prevailing price for those goods. Nor are they kidding or mistaken; let sales prospects improve, through a sustained pick-up in exports for example, and some of the unemployed workers will be hired at the prevailing wage to produce goods for sale abroad at the prevailing price. There are other possible reasons for the coexistence of idle capacity and unemployed workers: some people may not be productive enough to be worth hiring at any wage they would accept, and some high-cost businesses are so inefficient that they cannot meet the competition. Many of the unemployed are merely changing jobs or seeking first jobs. But what makes recession such a frustrating challenge is that the source of the problem is nothing so "real" as lack of skills or productive efficiency; apparently the problem is that there is not enough spending to provide a market for the goods and services the economy is perfectly capable of producing and would like to have. That is the lesson of the export example just mentioned. The paradox is sharpened by the realization that part of the needed spending would be provided by the newly-employed workers themselves, if only there were some way to get them employed in the first place.

At any moment, then, people and plant may be unemployed for all sorts of reasons. Just to the extent that the insufficient-spending diagnosis holds -- that is to say, in a recession -- it is natural that public policy should aim at stimulating a larger total volume of spending. That is precisely the function of monetary and fiscal policy, often lumped together as "macroeconomic" policy. The exact mechanisms by which macroeconomic policies are supposed to work need not concern us in detail. The important idea is that to work at all they must somehow bring about an increase in total -- public and private -- spending on currently produced goods and services.

In the case of monetary policy, the object is to make the economy more liquid, to cause it to have a larger part of its wealth in monetary or near-monetary form. Some economists think that the extra liquidity induces families and firms directly to buy more goods, just as a way of getting rid of the excess liquidity. Others suggest that the additional liquidity causes interest rates to fall and makes credit easier to get. The end result must be an increase in spending on the sorts of things normally financed by credit -- houses, durable goods, plant and equipment -- if unemployed workers and idle capacity are to be activated.

Expansionary fiscal policy can take the form of tax reduction or expenditure increase. In either case, the Federal government has to pay its bills; it has to "finance" the revenue loss or the added expenditures. Take a tax reduction first. It requires no great imagination to see that citizens who find themselves with an enlarged after-tax income are likely to spend at least a part of their added purchasing power on goods and services. As they do so, inventories are drawn down and pretty soon production and employment increase. What difference does it make how the government finances its revenue loss? Well, if it did so by increasing some other taxes, the expansionary effect would simply be cancelled off (except possibly as the increase and the reduction fall on different groups in the society, with different spending reactions to a change in after-tax income). What are the alternatives? If the government in effect prints money to pay its bills, then we have a combination of fiscal and monetary policy working in the same direction, and the combined effect will be greater than that of either alone. If the government sells bonds to the public then the effects are more complicated, but still expansionary.

When expansionary fiscal policy takes the form of a rise in public spending, the effect on output and employment is more direct. Public spending is also spending. Government purchases of automobiles add to the spending stream exactly as private purchases would do. If production of autos and employment of experienced auto workers have been limited by the weakness of sales, then it matters little or not at all whether the new buyers who appear are private citizens or government functionaries, here or abroad. Production and employment will respond, perhaps with a delay for some intervening inventory reduction.

Sometimes, of course, government spending takes the form of direct employment of schoolteachers, postal clerks, firemen, forest rangers, secretaries or Assistant Secretaries. Then the link between spending and employment could hardly be more direct. But that is nothing special. It is unlikely to matter in any fundamental way whether the government hires a secretary or contracts to have clerical services provided by an outside firm. But here, too, it does make a difference how government expenditure is financed. If it is financed by a tax increase, much of the expansionary effect will be cancelled. If it is financed by printing money or by selling bonds, the expansionary effect remains, though with complicated side-effects.

The level of unemployment prevailing at any time is the result of complex forces. Some workers have voluntarily quit their jobs to find better ones; some workers are "structurally unemployed," lacking marketable skills. But unmistakably, there are times when aggregate spending is inadequate to employ the economy's labor and capital and at such times there is unemployment directly attributable to a deficiency of aggregate demand. The distinction between such "recession unemployment" and other kinds of unemployment must not be pushed too far. Even in good times, an increase in spending will usually result in increased employment, even if some training or upgrading has to occur in order to make room for the structurally unemployed. And even in bad times there are some unfilled vacancies, so that the right worker in the right place could find a job. But neither of these observations should obscure the fact that in a recession there are many workers (in a year like 1975 even several million workers) who *are* in the right places, who *do* have the right skills and who are unemployed only because the aggregate demand for goods and services is inadequate.

We have given only a crude summary of a complex line of thought, but the main point is absolutely indispensable: macroeconomic policy operates in more or less indirect ways to add to the aggregate demand for goods and services, either through government purchases or through private purchases. To the extent that it succeeds in enlarging aggregate demand, and only to that extent, macroeconomic policy can draw unemployed labor and idle capacity into productive use. Obviously a policy that works through an increase in housing expenditure will employ different people and different equipment in different places, as compared with a policy that works through a rise in government purchases of jet aircraft, or through a general reduction in income tax rates, or through subsidies to education. Those differences may be a matter of considerable social importance, but they are not an issue in the theory of macroeconomic policy.

The distinction that is sometimes drawn between macroeconomic policy on one side and "job creation" on the other is therefore misleading.

All expansionary policies create jobs, or else they are not expansionary. Fiscal and monetary policy create jobs by first creating a market for the goods and services that newly employed workers might produce; public service employment, for example, creates jobs directly by opening up employment opportunities that were not there before. One might thus try to distinguish between direct and indirect job creation. But even that distinction, though defensible, is not as sharp as might at first appear. It was hinted earlier, and will be developed later, that some of the employment generated by any expansionary policy is "secondary." Whoever finds a job as a result of a policy move has income to spend that would not have been available without the policy. The spending of that income, under recession conditions, generates more employment and income; and the spending of that in turn generates still more employment and income. These later rounds of income and employment may be described as secondary, and ultimately attributed to whatever policy move began the whole process. Therefore, the distinction between direct and indirect job creation applies only to the primary or first-round employment; the secondary employment effects will be more or less the same for both.

Thus public service employment (PSE hereafter) is fiscal policy. It differs from other kinds of fiscal policy -- tax reduction, say, or increased government purchases of goods from private firms -- primarily because its primary employment effect is direct rather than indirect. When we compare PSE with other expansionary fiscal policies, there are at least three important dimensions along which the comparison can be made.

First, there is the purely aggregative or macroeconomic dimension. We can ask whether a billion dollars spent on PSE will generate more employment and output than a billion dollars spent on tax reduction or public assistance payments or Federal purchases of goods and services on the market. And if more, then we would like to know about how much more.

Second, the intended side effects of PSE have to be taken into account. Usually public service employment is advocated for reasons over and above the mere aggregative net addition to employment. Among the more important of these other goals are: (a) the targeting of employment at particular localities, especially depressed areas, (b) the targeting of employment at special disadvantaged groups, (c) the provision of public services in otherwise under-served communities, (d) general financial assistance to states and municipalities, (e) the provision of work experience for those who would otherwise find it hard to break into the private labor market under any circumstances, (f) simple income maintenance, not unlike ordinary public assistance, and (g) the availability of sure positions to permit a work requirement for eligible recipients of public assistance. To the extent that PSE serves these objectives, it might be preferred to indirect expansionary policies even if it had no advantage in the number of jobs generated per dollar spent.

Third, there is a rather complicated social goal that might be achieved through PSE: even under recession circumstances, there is good reason to fear that an increase of private-sector employment will bring with it some inflationary pressure, on wages in the first instance, and then on prices. PSE could possibly avoid this pressure, or diminish it, to the extent that the net employment of a thousand workers on PSE projects generates less additional tightness in labor markets than an increase of a thousand in private employment. If this were so, then again PSE could be preferred to other expansionary policies even if it were not more effective dollar for dollar.

In the next section we take up the macroeconomics of PSE; that is, we discuss the first dimension of comparison mentioned above. Later sections cover the second and third dimensions. Our conclusions are mixed. We think it unlikely that PSE is systematically "stronger" fiscal medicine than ordinary public spending. A dollar of PSE spending might be slightly more expansionary than a dollar of other purchases; there is even a possibility that it might be slightly less expansionary. In either case, the difference is likely to be small, too small to be the basis of any preference. The job content of a dollar of PSE is probably higher than that of a dollar of other spending, and this would be an advantage in a time of high unemployment. It is at least partially offset by the likelihood that PSE jobs will have less long-run training value than private-sector jobs. We conclude that the main advantages of PSE over conventional fiscal policy are: (a) that it can be targeted to provide jobs for hard-to-employ groups in the labor force, and for especially depressed cities and regions; (b) that PSE employment, correctly targeted, may be slightly less inflationary than the same amount of ordinary private-sector employment, so that total employment can safely be a little higher with a PSE component; and (c) that PSE can be coordinated with other forms of social insurance -- public assistance and unemployment insurance, for instance -- to make them perhaps more effective and certainly more acceptable to public opinion.

At the end, we try to draw together the implications of our substantive findings for the design and operation of an effective PSE system.

PUBLIC SERVICE EMPLOYMENT AS FISCAL POLICY

Since PSE is just one among other forms of fiscal policy, it is natural to compare its effects on GNP and on employment with those of the more conventional expansionary options. The natural standards of comparison are (a) across-the-board tax reduction and (b) increased Federal purchases of goods and services in the market. We will use both of these standards of comparison in turn, and we start with the increased spending option. The question then boils down to comparing the consequences of spending a billion dollars on the usual Federal market-basket of goods and services and spending a billion dollars on public service employment projects.

In order to absorb idle labor and plant capacity into useful employment, the Federal government buys a billion dollars more of whatever it had previously been buying. There is an argument sometimes made that if the government spends more, private individuals will spend less. If there is more Federal spending on medical-care, the argument runs, then private spending on medical-care will be reduced. This may be true, although the reduction is hardly likely to be dollar for dollar, but it misses the main point. Most of any reduction in private medical-care spending will simply be redirected into other private spending. Thus, the Federal spending in the first instance provides a net increase of a billion dollars in aggregate spending, or GNP.

At this point in the process it is very important to know what happens to prices in the economy at large. If the extra spending induces a proportional rise in prices, so that the larger GNP is merely the same real volume of goods and services valued at higher prices, then nothing useful has been accomplished. That is what one might expect if the extra spending were superimposed on an economy already nearly fully employed, as happened during the Vietnam War after 1965. But if, as we are now assuming, the economy is in a recession to begin with, one might expect at least part of the added GNP to come out in added production rather than in higher prices. For now, we will make the over-optimistic assumption that prices do not change at all, so that all the additional spending registers as increased production. We make that assumption here, not because we expect it to happen, but because it will simplify the exposition, and we plan to discuss the behavior of prices and wages in a little more detail later on.

The immediate "first-round" effect of a billion-dollar increase in government spending is thus a billion-dollar increase in GNP. But that is not the end. The new billion dollars of spending all becomes income to someone. Part of it becomes the wages and salaries of the workers who produced the incremental goods and services, another part becomes profits for the firms that sold the goods and services, and part gets paid out to the suppliers of materials, electricity, transport, etc. -- where it again gets divided up among wages, profits and ... (Some will go to the foreign suppliers of imported materials, but we will ignore that complication.) In the end, it is all somebody's income. And since it is somebody's income, it will get taxed by the Federal government and by state and local governments as well. Exactly how much will be taxed away depends in a complicated way on where the income is earned and by whom; but to have a round number of the right magnitude, let us say that 1/3 of the billion dollars finds its way back to governments, so only the remaining 2/3 is available to the initial recipients to spend if they wish. Now, again, some of them will spend a lot and some only a little, but a fair average figure is that 3/4 of the increment in after-tax income will be spent. Thus the original $1 billion of spending has given rise to $2/3 billion of after-tax income and to $(2/3)(3/4) or $1/2 billion of "second-round" spending. Altogether, so far, we have accounted for $1-1/2 billion of new spending and -- under the strong assumption that prices do not increase -- the same amount of new production.

There are third and fourth and later rounds too. In the end, the full increment to aggregate spending will be $2 billion -- the primary "first-round" increase of $1 billion plus another billion of secondary "later-round" spending. In the jargon of economics, the government-spending multiplier is two. To check this, we can make a calculation that will come in handy later. If the spending multiplier is two, then any primary increase in spending should generate an equal amount of secondary spending, and so should itself have a multiplier of two. In particular, the second-round increment calculated in the preceding paragraph should have a multiplier of two. In other words, if our calculation is right, it should be the case that 1+(2/3)(3/4)2 = 1+(1/2)2 = 2, as indeed it is. There is, of course, nothing holy about the number two; if the tax number or the spending number were different, the multiplier would be different too. For example, if governments took 30 percent of incremental GNP (instead of 1/3) and recipients spent 80 percent of any increment to after-tax income (instead of 3/4), then the multiplier would be 2.27.

That is, an increase of $1 billion in Federal spending would generate an increase in GNP of $2.27 billion. The check is that 1+(.7)(.8) 2.27 equals 2.27, to two decimal places.

The case of across-the-board tax reduction is now pretty straightforward. A billion-dollar tax reduction has no primary effect, no "first round." But it does increase after-tax incomes around the country by a billion dollars. So it will generate some spending by relieved taxpayers. In our first example, it will generate $.75 billion of spending, and that will play the role of the initial burst of spending. Since in that case the spending multiplier was two, the billion-dollar tax reduction will generate an ultimate increase in GNP of $(.75)2 or $1.5 billion. Thus the tax reduction multiplier is 1.5. In the second example, the incremental spending is $ 0.8 billion and the spending multiplier is 2.27, so the tax reduction multiplier is 2.27(.8) or 1.82. It is generally the case that the tax-reduction multiplier is a bit smaller than the spending-increase multiplier, for the reason just illustrated: the spending that starts the process off is smaller for each dollar of tax reduction.

The PSE Multiplier

Now suppose the billion dollars takes the form of PSE. What difference does that make to the multiplier process?

The first amendment to be considered is the much-discussed issue of displacement or fiscal substitution. In practice, any medium-to-large size PSE program will be financed by the Federal government but operated at some lower level of government, perhaps through CETA prime sponsors. There is then clearly a considerable likelihood that PSE projects will be used to substitute for (i.e., to displace) state or municipal expenditure that would have been made even if there had been no PSE program, for example to employ regular employees at their regular jobs, perhaps after an intervening period of unemployment.* In that case PSE merely relieves state and municipal budgets of the cost of some ordinary expenditures. How will the local government "spend" this budgetary relief? Let us suppose that it reduces taxes or, what comes to the same thing, avoids a tax increase that would otherwise have been required. If the displacement is total, then PSE is just complicated revenue-sharing; the Federal government, instead of reducing its own taxes, finances a reduction in state or municipal taxes. To a first approximation, the appropriate multiplier is just the tax reduction multiplier. Suppose there is partial displacement: that is, a billion dollars of PSE creates $1-d billion of new project and $d billion of tax relief for states and municipalities. Then the appropriate multiplier for GNP is an average of the PSE multiplier and the tax reduction multiplier with weights 1-d and d.

It must be admitted that no one knows how much displacement there has been, or how much it could be reduced by some legitimate effort to police the use of PSE funds. The Congressional Budget Office has estimated that 60 percent of PSE funds might disappear into displacement within one year, the fraction rising to 90-100 percent by the end of the second year of the program.

This estimate was leter amended to suggest a displacement rate of 25-50 percent after one year and 40-60 percent after two. In each case the lower end of the range corresponds to programs in which the number of new PSE slots increases slowly (say 30,000 per month) and the upper end of the range corresponds to faster-growing programs (say 60,000 new slots per month). These various CBO estimates bracket those made by other researchers.

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*For this and other administrative and operational questions, see "An Essay on Subsidized Employment in the Public Sector," by Harry Katz and Michael Wiseman, written for the National Commission on Manpower Policy.

In a paper for the National Commission on Manpower Policy, Borus and Hamermesh survey several econometric estimates of the displacement rate and show that the evidence is quite weak and highly sensitive to some fairly dubious assumptions on which the estimates are based. At this stage, the only safe working hypothesis is that there will be some displacement, perhaps quite a lot, unless there is a serious effort to avoid it.* In comparing the GNP effects of PSE with those of conventional fiscal policy, we will use a few different hypothetical displacement rates, and assume that the displaced fraction goes into tax reduction. It bears repeating that the mere fact of displacement, even if the displacement rate is large, is not by itself an argument against PSE. The program remains expansionary, about as expansionary as Federal tax reduction, with the added advantage that the revenue loss can be targeted to states and cities with pressing needs and tight budgets. But PSE would then have to be justified on those grounds, and not on any special effectiveness as macroeconomic policy.

We can now concentrate on the multiplier associated with PSE expenditures without displacement, because the displacement effect can be allowed for later by the averaging process already described. For clarity, we imagine a billion dollars spent on PSE net of all administrative costs, ancillary expenditures and outlays for materials. They are an unavoidable part of any program, no doubt, but macroeconomically they are just like ordinary government purchases and would carry the ordinary government-spending multiplier. So the primary impact of the "pure" PSE program we are considering consists of a billion dollars paid out to eligible employees under the program. That -- or, to be precise, the work for which it is paid out -- constitutes the first round of the multiplier calculation.

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*The most recent evidence is contained in a study by the Brookings Institution for the National Commission on Manpower Policy: "Monitoring the Public Service Employment Program." From direct observation, that study comes to the much more optimistic conclusion that the displacement ratio may be as low as 20 percent.

Here a question arises. In practice, the GNP statistician goes under the assumption that a commodity is worth whatever the market pays for it. Cigarettes may be hazardous to your health, but they count dollar for dollar in GNP. In the case of services produced by government agencies -- schooling, directing traffic, planting the flag on Iwo Jima -- which are never priced in the open market, the convention is to count them in GNP at their wage cost. Thus, in practice, a billion dollars of pure PSE expenditure will be counted as a billion dollars of GNP. We are, of course, entitled to ask if the convention is misleading here. The correct answer depends on the content of the PSE program. If PSE workers perform pointless make-work of no genuine value, then certainly the accounting convention will overstate "real" GNP, just as a lung-cancer specialist might feel that counting cigarettes at their market value overstates real GNP. If, as one hopes, PSE workers do jobs of genuine social value, then there is no overstatement of real GNP. Indeed, it is only fair to consider the symmetric case: if PSE projects are targeted to provide urgently needed public services in places where budgetary stringency or other local factors have caused the local population to be grossly under-served, then perhaps the accounting convention will understate the true contribution of PSE to real GNP. Those Marines at Iwo Jima might have felt that their contribution was worth rather more than a dollar a day (plus a bit extra for the Sergeant). The conceptual point is worth understanding; but in practice the first-round contribution of the billion-dollar PSE project will be entered into GNP at a billion dollars.

To complete the multiplier calculation, we need to estimate the "secondary" spending induced by the first round. Here is where the macroeconomics of PSE may differ systematically from more conventional fiscal policy. Project workers have earned a billion dollars of wages: how much will they spend? First of all, if the program is nonselective, if the project workers are merely a cross-section of the labor force, then one would not expect the PSE multiplier to differ from the ordinary government-spending multiplier. Something might happen because all of the PSE expenditure is wages, whereas ordinary government spending has a component of profits, rents, and other forms of income. But that cannot amount to much of a difference, considering that we are here artificially abstracting from the materials component of PSE. So a nonselective PSE program would amount to nothing more, in macroeconomic terms, than a mixture of ordinary government spending and tax reduction, with the precise mixture determined by the displacement rate. This being so, let us assume that PSE is selective, with eligibility for employment determined by length of previous unemployment, low-income status, or membership in some severely disadvantaged group. (As we will discuss later, such restrictions on eligibility may also serve to reduce the displacement rate.)

Now how much will PSE workers spend? That depends on two factors: the tax ratio, and the spending ratio from after-tax income. The latter is the easier to discuss. There is certainly no reason to expect PSE workers to spend a smaller fraction of their after-tax income than the average for the economy; and there is good reason to expect them to spend more. If PSE workers come almost exclusively from the poor and chronically unemployed, they will probably spend nearly all of what they get. (Repayment of debt counts as saving; but then any further borrowing on reestablished credit gets us back to square one.) Common observation suggests that many of those eligible for PSE are constrained in their consumption by their ability to lay their hands on cash, so that their spending ratio is likely to be 1.0. It is reasonable, then, in making sample calculations to take the economy-wide spending ratio of 0.75-0.80 as one extreme of the range, and 1.0 as the other. We think the higher figure is the more realistic.*

In estimating the ordinary government-spending multiplier, we had to allow for the recapture by taxation of part of the gross income generated.

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*It should be kept in mind that we are considering the hypothetical case of a "pure" PSE expenditure, in which all the outlay goes for the wages of project workers. In fact, a fraction of the outlay must be spent on administration (mostly wages of regular government employees), materials, equipment and so on. If a fraction _a_ of total outlay is spent to cover these ancillary costs, then the PSF multiplier is an average of the pure PSE multiplier and (approximately) the ordinary government-purchases-multiplier, with weights 1-a and a.

The relevant taxes are those at all levels of government. In this calculation, transfer payments -- unemployment compensation, welfare benefits, food stamps, etc. -- count as negative taxes. When an unemployed person finds a job, the recapture of revenue is the sum of the saving in unemployment insurance benefits, say, and any positive income and payroll taxes actually paid on the wages earned. This is important because, while it might seem obvious at first that the poor recipients of PSE wages would be subject to lower-than-average tax rates, it is not so obvious when you take account of the likely reduction of transfer payments. Even if PSE eligibility were limited to those who had exhausted their unemployment insurance coverage -- a rather extreme presumption -- the loss of various public assistance benefits might easily mount up to a substantial marginal tax rate. One must certainly allow for that possibility in any attempt to estimate the PSE multiplier. Remember, though, that a high recapture rate means that net government spending, allowing for induced increases in revenue, may be much less than the initial gross increase in government purchases.

Once the direct recipients of PSE wages pay their taxes and spend all or part of what is left, the everyday economy takes over. No doubt PSE workers buy a bundle of goods slightly different from that bought by the average citizen or taxpayer. But we are hardly likely to know what it is, or how the difference affects the rest of the multiplier process. There is no easy presumption that the rest of the PSE mutliplier chain will be systematically larger or smaller than the chain of spending stemming from ordinary government purchases or from tax reduction. The only sensible assumption is that the ordinary multiplier -- the 2.00 or 2.27 calculated earlier -- applies to the second-round spending, namely to the purchases of the PSE recipients themselves.

We can now make a sample calculation. Imagine a pure PSE expenditure -- a billion dollars of wages paid to PSE project workers. That constitutes the first round. Suppose that the tax-transfer recapture from PSE wages happens to be the same 1/3 that appeared in our calculation of the government spending multiplier, so that PSE workers' after-tax and after-transfer incomes rise by $2/3 billion. Suppose that PSE workers spend every nickel that they get to keep, so that private consumer expenditure rises by the full $2/3 billion. And suppose that the ordinary multiplier, to be applied to any general increment in spending, is 2.00, as in our first example above. Then the pure PSE multiplier, without allowance for displacement is $1+(2/3)(1)(2) = 2.33$. It is therefore, a bit higher than the government-spending multiplier of 2.00, and it is easy to see why. The extra bang comes from the fact that PSE workers are assumed to spend all their incremental after-tax income, while the average consumer spends only 3/4 of any increment to after-tax income. Replace that (1) by (3/4), and we come back to the original calculation that gave a spending multiplier of 2.00.

Remember that 2.33 is the multiplier for PSE without displacement. If there is, in fact, no displacement, or for as long as there is no displacement, the PSE multiplier might be 2.33, and we could say that PSE is somewhat more effective, in straight macroeconomic terms, than an equivalent increase in everyday government purchases. If, or when, the displacement rate reaches one-half, the PSE multiplier becomes a simple average of 2.33 and 1.50 (the tax-reduction multiplier), hence equal to 1.92. With 50 percent displacement, therefore, a billion dollars of PSE is ever so slightly less expansionary than everyday government spending, but more expansionary than a billion dollars of across-the-board tax reduction.

It is obvious that the PSE multiplier will be larger than conventional multipliers to the extent that PSE workers spend a larger fraction of their added income than the representative income-recipient in the economy would do, and to the extent that PSE workers are not subject to high marginal tax rates. In the example above, it was assumed that PSE workers pay the same marginal tax rate as the economy as a whole. If, instead, the tax rate on PSE earnings were 50 percent, say because of the high implicit tax on the earnings of welfare recipients, the PSE multiplier would become $1+\frac{1}{2}(1)2 = 2$. That is to say, the higher tax rate would just nullify the higher spending ratio of PSE workers, and the multiplier for pure PSE wages would be exactly the same as the multiplier for ordinary government purchases.

Suppose the economy-wide marginal tax rate is 3/10 and 8/10 of any increment in after-tax income is spent. As shown earlier, the government-spending multiplier is then 2.27 and the tax-reduction multiplier is 1.82. Then if PSE workers spend everything they get, and are subject to the same tax rate as the economy at large, the PSE multiplier will be $1+(7/10)(1)(2.27) = 2.59$. Under those favorable circumstances, a billion dollars of PSE wages will ultimately cause GNP to rise by $2.6 billion -- the original billion of PSE production, plus $1.6 billion of secondary spending. This is $300 million more than if the same billion dollars had been spent on the usual bundle of goods and services bought by government; it happens because

PSE workers are assumed to be average taxpayers, but to spend a larger share of increments to after-tax income than the average taxpayer does. If the marginal tax rate on PSE wages were one-half instead of three-tenths, the PSE multiplier would be 2.14, somewhat smaller than the government-purchases multiplier. If or when the displacement rate reaches 50 percent, the PSE multiplier would be the average of 2.59 and 1.82, or 2.21, just about the same as the ordinary government-purchases multiplier.

Any precise evaluation of the tax rate on PSE earnings must be sensitive to the composition of the PSE work force, because the tax rate may vary drastically according to circumstances. Thus AFDC recipients are subject to regulations and discretionary decisions not applicable to others; or, to take another example, the effective tax rate will be larger for a PSE worker previously receiving unemployment insurance benefits than for one whose benefits have been exhausted or who was ineligible in the first place.

Merely to give the flavor of the problem, we can cite some evidence on AFDC recipients (see Irene Lurie, "Estimates of Tax Rates in the AFDC Program," National Tax Journal, March 1974, and Bradley R. Schiller, "AFDC Tax Rates: Some Further Evidence," ibid., November 1977. Schiller finds an effective tax rate of 0.175 on female AFDC recipients, consistent with Lurie's findings. This seems low, but Schiller explains that the "book" tax rate is lowered by a combination of high deductions for work expenses, and the mandatory disregard of $30 per month. The latter factor would become much less important if the earnings available from PSE substantially exceeded those achievable by Schiller's sample. For various reasons, the effective tax rate on male AFDC recipients is much higher;

Schiller estimates it at 0.438, considerably higher than the figure used in economy-wide multiplier calculations. Male-headed families amount to about 20 percent of the AFDC caseload. A weighted average of the two tax rates is 0.23. This is slightly lower than the conventional economy-wide number, and therefore suggests a slightly higher PSE multiplier. But the basis much too slim for any such conclusion. The possibility of a high implicit tax rate on PSE earnings is quite real, when reduction of unemployment insurance, food stamps and other transfers is accounted for. This can only go to lower the PSE multiplier.

The accompanying Table summarizes these calculations by giving the PSE multipliers on various combinations of assumptions, when the regular government-spending multiplier is two. The columns cover tax recapture rates from PSE workers of 1/5, 1/3 and 1/2. The rows cover after-tax spending ratios for PSE workers of 3/4, 8/10 and 1. In each box, the upper figure corresponds to a displacement rate of 2/10, the lower to a displacement rate of 6/10.

	Tax recapture rate		
Spending ratio	1/5	1/3	1/2
3/4	2.06 1.78	1.90 1.70	1.70 1.60
8/10	2.12 1.81	1.96 1.73	1.74 1.62
1	2.38 1.94	2.16 1.83	1.90 1.70

All these calculations are, of course, oversimplified, but we think they are approximately on the mark. They suggest that "pure" PSE is at best slightly more expansionary (in the GNP sense) than ordinary government spending. Practically speaking, if we take account of the fact that some PSE funds will have to be spent on administration, ancillary services, and materials, the difference probably disappears. We emphasize that this judgment relates only to the GNP effect of PSE spending. There are other reasons why one might prefer PSE to other spending, or to tax reduction, even if the GNP effects are essentially indistinguishable.

Employment Multipliers

One such reason has to do with the employment effects. It may be an important advantage of PSE that at least the first-round employment can be targeted both geographically and according to other characteristics of the potential workers, though there are limits to the degree of selectivity that can be sensibly written into legislation. We will come back to this later, when we discuss selectivity as a goal. Here we want to comment only on the aggregate employment effects. The multiplier as it is conventionally defined, and as we have used it, tells you what the GNP effect will be of a fiscal policy change. In the normal way there is a pretty direct relation between GNP effects and employment effects. But a fiscal policy like PSE that is specifically designed to generate employment may be different. The "jobs multiplier" may be higher for PSE. A standard estimate is that it takes about $20,000 of GNP to generate one job. (In mid-1977, GNP per person employed was $21,000.) Thus, if the government-purchases multiplier is 2, a billion dollars of ordinary spending will add two billion dollars to GNP, and therefore create 100,000 jobs. Here PSE has an advantage because the first-round direct employment can be expected to be especially large. Projections for 1978 suggest that $5.9 billion of PSE outlays might create 725,000 slots. In round numbers, that means $8000 per slot or that a billion dollars of PSE outlays will create 125,000 slots, directly. Suppose first that PSE workers have the same marginal tax rate (1/3) and the same spending ratio per dollar of after-tax income (3/4) as the rest of the population. The project workers will keep 2/3 of the billion dollars of wages, and spend 3/4 of that, or half a billion in total. The ordinary multiplier applies to this, so the secondary increase in GNP is a billion dollars. At the routine $20,000 per job, the secondary employment created amounts to 50,000 jobs. The aggregate increase in employment is therefore 125,000+50,000 = 175,000, considerably more than the 100,000 from routine spending.*

If we make the more optimistic, but perhaps more realistic, assumption that PSE workers spend all their added earning and pay only the economy-wide marginal tax rate, then the employment impact is even larger. There are 125,000 slots in the first instance. Project workers keep $2/3 billion after tax and spend it all. With an ordinary multiplier of 2, the secondary increase in GNP is $1-1/3 billion. The aggregate job creation is then 125,000+67,000 or 189,000. It should now be easy to try other assumptions. The conclusion is that PSE definitely creates more jobs per dollar of expenditure than routine fiscal policy. There is a qualification, though: most of the jobs are PSE jobs, not "straight" jobs -- with whatever that means in terms of duration of employment, training component, and value of output. If you weight jobs by their measured "output" you come back to GNP effects. But when any kind of employment is the objective, PSE appears to have an advantage.

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*This calculation needs qualification. It probably takes an increment to GNP slightly larger than $20,000 to create a job. Perhaps 20 percent of the extra production would show itself in longer hours for some already employed workers. And another part would show itself in the improvement in productivity that normally accompanies a business-cycle upswing. This qualification would make PSE look a little better, though the rise in hours might be considered to be the functional equivalent of employment.

"Deficit" Multipliers

Our last comment on multiplier effects has to do with the influence of the marginal tax rate. In the case of ordinary government spending, it should be clear why the ultimate GNP effect would be smaller if the economy-wide marginal tax rate were higher. The first-round effect would be unaffected, but less would be spent by the first-round income recipients, because a larger fraction of their extra income would flow back to the Treasury. Each successive round would be smaller, both because the pre-tax income generated by the previous round would be smaller, and because a smaller fraction of pre-tax income survives to become after-tax income.

The counterpart of this effect is that the net budgetary cost of a billion dollars of public spending is smaller than a billion dollars, smaller by the induced increase in tax revenue. For some purposes, one might want to calculate a "deficit multiplier" -- the change in GNP per dollar of net budgetary cost. To see how this works, go back to our first example, in which the marginal tax rate is 1/3 and the government-spending multiplier is 2. If a billion dollars of government purchases generates two billion dollars of GNP, then tax revenues will rise by $2/3 billion, i.e., by 1/3 of the rise in GNP. The billion dollars of spending has a net budgetary cost of $1/3 billion, and the deficit multiplier is 2 ÷ 1/3 or 6. The process has generated $6 dollars of GNP per dollar of added deficit.

The deficit multiplier associated with PSE is a little more complicated, because there are two sources of induced tax revenue, and two tax rates, to take into account. The original PSE project workers pay taxes on their earnings, perhaps in reduced transfers, at their marginal rate; and the later income recipients in the multiplier chain pay taxes at the economy-wide rate.

Suppose first, as we did in one place earlier, that PSE workers pay the same tax rate as the economy-wide one, but spend all their after-tax income. Then the PSE multiplier was shown to be 2.33. In this example, PSE workers and everyone else face a marginal tax rate of 1/3, so the revenue recapture will amount to (1/3)(2.33) = .777, and the net budgetary cost is $.222 billion. The deficit multiplier is 2.33 ÷ .222 = 10.5, which is considerably larger than 6.

If the marginal tax rate for PSE workers is as high as 1/2, but all the other assumptions are left unchanged, the PSE multiplier drops back to 2, the same as the government purchases multiplier. So GNP rises by $2 billion. One billion of that is PSE wages, and yields $500 million of induced tax revenue or reduced public assistance. The remaining billion comes from the later rounds of the multiplier, and is subject to the economy-wide marginal tax rate; the extra yield is another $333 million. Tax revenue goes up by $833 million, and the deficit rises by only $167 million. The PSE deficit multiplier is thus 2 ÷ 1/6 = 12, even larger than 10.5.

We confess that we are not entirely happy with the concept of the deficit multiplier. It is too easy to become bemused by these large-sounding numbers and to forget what they are all about. There are legitimate reasons why one might want to know the deficit multiplier, but the mere shibboleth of in-season and out-of-season budget balancing is not one of them.

Why should one care about multipliers at all, whether with respect to gross spending or to net budgetary cost, or to the import content of the resulting GNP for that matter? In a recession, the true object of the exercise is to achieve a certain increase in output and employment (without excessive inflationary pressure). The size of the gross spending multiplier tells us how much gross spending is needed to achieve the goal; the net deficit multiplier tells us how big an increase in the budget deficit will accompany achievement of the specified goal. If a particular fiscal-policy tool has a small multiplier, then it will have to be used more intensively to achieve the goal. Why should it matter if one fiscal-policy device has a larger multiplier than another?

That depends on what we impose as the limits on macroeconomic policy. If you want to achieve the output and employment goals with the smallest possible increase in the size of the government sector, then you would prefer the device with the largest gross spending multiplier. If, for some good or bad reason, you want to achieve the goal with the smallest possible budget deficit, then, of course, you would prefer the device with the smallest deficit multiplier. If, on the other hand, it is the balance of payments that worries you, you might choose the route with the smallest import multiplier. Whether or not you are making an intelligent choice will depend on whether or not you have selected a sensible criterion. We have tried to provide the basic framework within which the choice can be made.

The main conclusions appear to be these. So far as aggregate effects on GNP are concerned, there is little to choose between PSE and ordinary government purchases. Unless the implicit tax rate on PSE workers is higher than the economy-wide marginal tax rate, PSE may offer a slightly larger GNP multiplier, but only slightly. That advantage could even be reversed if the implicit tax rate on public assistance benefits is fairly high, or if displacement occurs. Both PSE and ordinary spending are slightly more potent than across-the-board tax reduction. PSE spending probably generates more total jobs per dollar of gross outlay than ordinary government spending, but this advantage is tempered by the fact that the extra jobs are PSE jobs, which may be socially less useful than straight labor market jobs. The real advantage of PSE over conventional fiscal policy, if there is one, is probably to be sought, not in these quantitative comparisons, but in the ability of PSE to target its effort to help disadvantaged people and places, and to do so quickly.

That being so, it is regrettable that more cannot be said about targetability and timing. Pending evaluation of the 1977 package, however, all that can be justified are some general qualitative remarks, and a few rough quantitative impressions gleaned from the 1975 experience with CETA titles II and VI.

Conventional fiscal policy measures -- increases in federal expenditures and balanced reductions in federal taxes -- are in practice not targetable at all. Experience under CETA title VI suggests that PSE programs can indeed be targeted (on the first "round") to disadvantaged groups, provided that a careful effort is made to verify that legislated requirements are being met. But success in targeting is connected with the degree of displacement. If the displacement rate can be kept low, again by careful policing, then PSE jobs are not new jobs, and they can probably be reserved in large part to the target populations. When the displacement rate is high, however, the number and nature of jobs does not change much. Successful targeting must then mean that regular state and municipal workers are simply being replaced by people drawn from disadvantaged groups in the labor force. This will certainly arouse grass-roots resistance; and it is doubtful if targeting can be successful in any but the shortest run. PSE certainly scores higher than conventional fiscal policy on this criterion, but the scope for targeting is far from clear-cut.

When it comes to timing, the natural comparison is between increased purchases of the normal basket of federal goods and services on the one hand, and PSE on the other. Tax reduction is the slowest expansionary route of all, because changes in consumer spending and business investment are known to lag substantially behind changes in disposable income and investment incentives.

Here again the displacement problem arises. It seems inevitable that any attempt to speed the build-up of PSE slots will be at least partially offset by a higher displacement rate. It must necessarily take time to create and organize new jobs; if the pace is forced, prime sponsors are likely to respond by blanketing in more pre-existing functions under PSE. Using the 1975 CETA experience as a guide, the Congressional Budget Office has estimated ("Short-run Measures to Stimulate the Economy," March 1977, pp. 38-39) that, at a build-up rate of 30,000 slots per month, the displacement rate would be 25 percent in the first year, growing to

40 percent in the second year; but if the build-up rate were increased by another 30,000 slots per month, the displacement rate for this second increment would be as high as 67 percent in the first year and 80 percent in the second. These guesses are hardly to be taken as gospel; but they are educated guesses, and they certainly suggest the nature of the problem.

An earlier publication of the CBO ("Temporary Measures to Stimulate Employment," September 1975, pp. 69, 73) offers some timing comparisons among alternative policy devices. According to these estimates, the ordinary-government-spending route to expansion achieves half its ultimate (i.e., after two years) employment effect after one quarter, 64 percent after two quarters, and 90 percent at the end of the first year. For PSE, the corresponding cumulation is 42 percent in the first quarter, 61 percent in two quarters, and essentially the full effect (98 percent, with spurious precision) after the first year. If one were to take these figures seriously, there would be little to choose between the two policies on timing grounds. Since the figures are not to be taken seriously, we are left with considerable uncertainty, and surely with some reason to wonder if timing can be the decisive criterion of choice.

In any case, the important comparison is not the one that would emerge from the early years of CETA. What we should care about is the speed with which PSE can be expanded and contracted after the program has been in full-scale existence for some time, and institutions and procedures have got to be as good as they are going to be.

Pending more evidence, we seem to be left with targetability, and perhaps higher job content per dollar, as the only important advantages inhering in PSE as compared with more conventional fiscal-policy devices.

These are significant criteria of choice; but that we come down to them does serve to emphasize the kinship of PSE with other methods of operating fiscal policy.

PUBLIC EMPLOYMENT, WELFARE AND UNEMPLOYMENT INSURANCE

To this point we have discussed PSE simply in terms of its ability to provide a stimulus to the economy, a stimulus necessary because of the persistence of recession. In this and the next section some issues are raised about the way in which a PSE program should be structured -- specifically, what kind of jobs there should be and who should get them. These questions are just as relevant if PSE jobs are to be used to achieve manpower or income-maintenance goals in the long run.

Two ways of setting up a PSE program have been suggested that are rather different in emphasis. One approach is to stress the use of PSE jobs as a method of income-maintenance, as a supplement to or alternative to existing social insurance schemes such as unemployment insurance (UI) and welfare. A second approach is to stress the targeting of PSE jobs in such a way that the inflationary impact of any given reduction in unemployment is minimized. To some extent these two approaches will overlap, but it is worth thinking about them separately for the present. We will consider the first approach in this section.

In order to decide whether or not PSE might work with or instead of existing social insurance programs it is worth summarizing briefly the goals of these programs and some of the difficulties they have encountered, difficulties that might or might not be lessened by PSE.

Unemployment Insurance

All advanced economies and many developing economies have UI programs. UI is intended to provide short-period income support for persons who have "proven a genuine attachment to the labor force." In practice this means those who have worked for six months or so in covered employment. In many ways UI programs have been very successful. They have provided a measure of security to workers who are vulnerable to periodic layoffs and they have provided a measure of automatic stabilization for the economy as a whole by sustaining consumer purchasing power in recessions.

Right from the inception of the UI program there was an awareness that workers and firms could "take advantage" of the program. As a preventive measure, it is specified that workers have to be actively seeking work or on temporary layoff. In addition, each firm is assessed tax contributions to the program based upon an experience-rating, i.e., the number of layoffs the firm has made in the past. In recent years, however, there has been some concern that these checks may not be enough. By providing income support for unemployed workers, UI may discourage the acceptance of available jobs, reduce the intensity with which the unemployed search and encourage firms to increase their use of temporary layoffs (thereby using UI benefits essentially to pay part of their wage bill). This last effect could in principle be eliminated by an effective experience-rating but in practice the rating procedure is not terribly effective.

The incentive provided by UI to firms and workers to change their behavior is sometimes called a "moral hazard" of the insurance program. This value-laden term is unfortunate. It is no more immoral to use UI benefits as income support in order to allow continued job search than it is to buy a house because of the tax advantages. The real point is that changes in the behavior of individuals and firms are to be expected and the design of the program should recognize their existence. Even if the payment of UI benefits results in an increase in the unemployment rate, this by itself is not the decisive consideration. Unemployment is to be avoided when it is a measure of distress and hardship. If we make unemployment somewhat less unpleasant and thereby slightly increase the amount of it, we should simply reflect that while there may be more unemployment it is one of the costs of relieving genuine distress.

Not that adverse incentives are unimportant. If otherwise efficient job-search behavior is distorted by UI, then there is a dead-weight loss that reduces the payoff from the system. Outright cheating is a problem also, but its quantitative significance should not be exaggerated. All the evidence suggests that the amount of cheating is small. However, that small amount discredits the program in the eyes of the public.

In short, therefore, the UI system is one where payroll taxes (i.e., insurance premiums) are levied to purchase income insurance for workers. The adverse event that is being insured against is a layoff. If this event occurs, the insurance pays off in the form of weekly benefits payable until a new job is obtained or until some expiration date is reached. Most spells of unemployment are fairly short so that the typical expiration date of state programs of 26 weeks covers most of the unemployed.

Although there are possible improvements in the design of the UI program that might be considered, there is not on the face of it a clear case for replacing the routine working of this insurance program with a public jobs program. There is every sign that UI is a popular program. If workers want insurance against layoffs, why not provide it?

At various times, however, for example during 1974-77 general tax revenue has been diverted into the UI program to provide extended benefits up to 65 weeks. The case for using PSE jobs as an alternative to these extended benefits looks much better. First, the proportion of recipients who are misusing the program becomes higher the longer is the extension of benefits. One such group consists of people who decide to leave the labor force after being laid off. Some are young persons who work for a while and then do something else for a while, and some are older persons nearing retirement age who decide to retire early. Even though such people are not actively seeking work some of them collect UI benefits routinely until the exhaustion date.

Second, those workers who remain genuinely unemployed for longer than about 26 weeks are no longer really part of the functionally unemployed for whom the UI program is basically intended. The long-term unemployed are certainly very discouraged about their job prospects. They have probably experienced a number of rejections from employers and search for a new job only rather sporadically.

Many of the long-term unemployed might welcome the chance to return to work -- even if the wage were rather low -- rather than continuing to queue up at the unemployment office. Even if the transfer from extended UI benefits to PSE were resisted, it seems reasonable for taxpayers to ask for some work in return for continued income support financed out of general tax revenue. The long-term unemployed worker is probably not getting much benefit from the free time he or she has available. But such workers often have skills and experience that could provide useful social output.

Since PSE employees could always be given time off for job interviews, there need be no reduction in the prospects of finding regular employment for workers transferred from extended UI to PSE. In fact job-search might be encouraged by running an active counselling program for PSE employees. One indication of how a little encouragement can go a long way is provided by the unemployment survey itself. A family that is interviewed for the Current Population Survey is reinterviewed several times over subsequent months. It is observed that those who are being reinterviewed have a lower unemployment rate than those interviewed for the first time. It seems that just knowing someone is going to come back in a month and ask if you have found a job encourages people to find jobs.

Welfare

Welfare payments too can be thought of as income-insurance, as protection for those who are either born into disadvantaged backgrounds or suffer adverse events over the course of their lives. Again, therefore, we should expect to see incentive effects on individual behavior. A welfare mother who weighs the take-home pay of a job against the costs of child-care and commuting is not making a moral decision. It is asking much too much to suggest that people ought to choose to work at a menial job in order to gain a couple of extra dollars a week.

It has been proposed that all welfare recipients be made subject to a work-test. All those judged capable of working would be required to accept a PSE job or lose their eligibility for welfare payments. One can agree that some kind of work-test may be desirable, while not accepting the widely-held view that all recipients of social insurance programs are automatically getting "something for nothing" and should be made to work. That is a misunderstanding of what social insurance is all about. Undoubtedly, much of the social hostility towards welfare recipients comes from the large numbers of workers who work hard and earn low incomes. They think their incomes after taxes are only a little above the incomes of families on welfare. In some cases they may even be right, although there is frequent exaggeration of how well-off welfare cases really are. If there is a problem of the working poor, and probably there is, it is not solved by punitively impoverishing others.

Most current welfare recipients are single parents with young children. If a work-test were applied harshly so that the single parent in these families were forced to work full-time, the social costs would be heavy. Looking after a house or apartment and young children, while managing on a low income is itself pretty much a full-time job. Certainly unsubsidized reasonable-quality day-care is too expensive to afford out of a low-wage income. Subsidies to day-care could allow many single parents to work, but such a policy should be evaluated, taking into account all costs and the probable earnings of the single parents in question.

Two other groups of welfare recipients are the disabled and the unemployed who have exhausted UI benefits or were ineligible for them in the first place. The disabled are not an issue here; no one suggests making genuinely disabled persons take PSE jobs. The unemployed collecting welfare are in basically the same category as the long-term unemployed discussed earlier. Again, it seems reasonable for taxpayers to ask for some social product in return for the income provided.

How Much Should PSE Workers Be Paid?

The amount of welfare payments paid to a family is based upon perceived need. The number of children in the family and the rent paid are considered.

Medical care may be provided. The amount of UI benefit paid varies in many states according to the number of dependents and in some states according to the previous income -- up to a limit. By contrast, wage rates in ordinary employment are rarely if ever set according to need. What will be the basis for payments to PSE employees?

It is hard to make a firm judgment, but the better choice is probably to define PSE jobs clearly as work, not welfare, and to apply the principle of equal pay for equal work. This suggests not paying more to employees with dependents. However, the jobs created for teenagers would generally be different from those created for adults and so different pay scales could be set for the two groups. There could be perhaps two or three seniority increments in the pay scales also. Both provisions would go part way towards accommodating the greater needs of family heads. The latter provision would also provide a mechanism for encouraging productivity on the job if the seniority steps were not given automatically.

If the base wage scale were set above the minimum wage there would be a serious problem of incentives in the PSE program. These jobs should function as backstop jobs, not as superior alternatives to jobs in the private market. In fact if some of the jobs, for teenagers say, contained a serious training component then there is a case for a wage rate below the minimum wage. Apprentices in Germany, for example, earn only pocket money while training, but go on to well-paid jobs after some years.

The tradeoffs in setting PSE wages are obvious: higher wage rates provide better income support but reduce the incentive for workers to find other jobs and raise the budgetary cost per worker. The final figure must be a compromise among these factors.

In summary, then, the main implications of this section are:

(1) Social insurance works by smoothing people's income against the effects of adverse events. Inevitably some changes in behavior are to be expected as a result.

(2) Recipients of social insurance transfer payments are not getting something for nothing. Tendencies towards punitive actions, particularly against welfare families, should be resisted. Specifically a punitive work-test for single parents with young children would be a mistake.

(3) There is no clear case for substituting PSE jobs as an alternative to the short-term income insurance function of the UI program.

(4) PSE as an alternative both to extended UI and to welfare payments to able-bodied individuals without young children, looks both reasonable and an efficient social allocation of resources.

(5) PSE probably should be work not welfare and paid as such, with wage rates set with an eye to maintaining the attractiveness of alternative private jobs.

TARGETING PSE JOBS TO MINIMIZE INFLATION

Historical experience tells us that if the pressure of aggregate demand is sufficiently strong the unemployment rate can be pulled down to a very low level indeed. In 1944 the rate fell to 1.2%, in 1953 it was 2.9% and in 1968 the rate was 3.6%. All three were years of high military expenditure, but that is not an essential element in any technical sense. Civilian government expenditure would have had equivalent economic effects, though of course its political acceptability would have been less. The fundamental constraint on driving down the rate of unemployment is the inflationary consequences of such actions. It was only when military need outweighed the fear of inflation that such a high level of aggregate demand was generated. Since all of the above episodes of low unemployment were in fact associated with inflationary price and wage pressures, such fears are not groundless.

Since the unemployment rate in 1977 is well above anyone's estimate of the rate that would cause acceleration of wages and prices, the immediate priority is a general stimulus to the economy and this is what we have been talking about up to now. But of course the fear of inflation is the main reason why more expansionary policies have not been followed in the past year or so, and the same fear explains why expansionary policies may be turned off or even reversed in the future, even if the unemployment rate remains above five percent. Thus, not only is it important to provide a general stimulus to the economy, but also it is vital to design the stimulus package so that inflation is minimized on the way up and so that the expansion can be pushed as far as possible without accelerating inflation.

The fact that inflation can persist and even accelerate despite the presence of four to five million unemployed workers is a central paradox of macroeconomic theory and a central dilemma of macroeconomic policy. This is not the place to attempt a full-scale treatment of the question. But if PSE jobs are to be used as part of a long-run structural manpower program designed to improve the terms of the compromise between inflation and employment, then it essential to understand why these terms are so unfavorable in the absence of special programs.

The first important factor in the aggregate picture is the existence of many loosely interconnected but separate labor markets. At any instant of time there can coexist a serious shortage of computer programmers with a surplus of construction workers, even within the same city. Alternatively, it may be impossible to hire an unskilled laborer in Houston, while in the mill towns of New England conditions are persistently depressed. Despite changing attitudes, it is also still true that white males find it easier to get many jobs and are viewed as more desirable employees than are blacks and females. Hence the labor market is segmented along demographic lines. A shortage of "suitable" workers is perceived by employers even though there may be many minorities and women looking for work.

In terms of this first element, therefore, the reasons why average wages continue to rise when so many workers remain unemployed are that many of the unemployed are not where the jobs are, and others are not perceived as suitable for the available jobs either because of an actual lack of skills or experience or because of the prejudices of employers or coworkers.

The second important reason why the overhang of unemployed workers does not more effectively restrain wage increases is because many firms are committed to a rising path of wages for their own workers and to the preservation of their wage scale relative to other firms with comparable workers. Firms find that it is not in their long-term interests to cut back wage increases when there is a short-run recession. The nucleus of long-term employees resists such behavior, even if the alternative is laying off low seniority workers or letting new entrants to the labor-force wait for jobs. When there is a labor union, the pressure on wages even in recessions is easy to observe, but the presence of a formal bargaining structure is not a necessary condition for this type of behavior.

PSE is hardly going to solve the inflation/unemployment dilemma in one stroke and in particular it is not going to do much to make the labor market more open and competitive. However, the most obvious and important way in which PSE can be designed in order to minimize its inflationary consequences is related to the first explanation, i.e., by aiming the program at the structurally unemployed.

The principle involved here in minimizing the impact of PSE jobs on wage inflation is straightforward: direct the public jobs towards those persons who find it hardest to get private jobs. Such hard-to-employ workers are those whose presence in the pool of unemployed has least impact in holding down wage increases. Aggregate demand for output has to be raised to a very high level in order to pull such workers into private jobs. It is often true that such workers are also those most deserving of help on distributional (equity) grounds. They are generally the poorest and most disadvantaged workers.

PSE and Regional Structural Unemployment

Unemployment is very unevenly distributed across the country. Certain cities and regions seem to have persistently high unemployment rates. If the level of aggregate demand is increased across the board, it stimulates the boom areas of the Southwest as much or even more than the inner city ghettoes, the mill towns and the depressed steel communities. Targeting PSE jobs into the high unemployment areas looks like a direct and efficient way of attacking regional structural unemployment.

If one followed such a strategy, what problems might develop in the long run? The obvious problem is that one might be prolonging the underlying structural difficulties by blunting the self-correcting mechanisms of the economy. The way these should work is that high unemployment in an area should depress wages there. Then the low wages, plus the high unemployment itself, should cause workers to migrate to other regions. In addition, firms should decide to locate in the depressed area in order to take advantage of labor market conditions favorable to employers. If PSE jobs were provided to absorb the excess unemployed in a region, this could prevent the corrective adjustment in the private labor market. There is a real issue here. One wants to facilitate a recovery, not simply sustain an invalid. But this goal does not necessarily work against the idea of regionally targeted PSE. The reasoning is as follows: i) migration certainly does occur in response to economic disparities, but this adjustment mechanism itself can cause difficulties; ii) pockets of persistent unemployment consisting of older workers, frequently with obsolete skills, remain behind in declining areas and iii) the movement of jobs -- where plants locate -- does not seem to help declining areas, rather the contrary. Consider first the difficulties caused by migration.

The United States is somewhat unusual among major countries in that there is little in the way of a systematic regional policy designed to maintain declining areas and slow the growth of expanding areas. Even the European Economic Community, where the preexisting nation states are at least as conscious of their rights as are the states of the Union, has a coordinated program to develop or redevelop the poorer or more depressed regions. Why do these countries bother? After all regional disparities if left alone generate substantial migration -- the people come to look for the jobs so why take the jobs to the people?

There is a fairly standard economic argument that says that leaving things alone in this case will not achieve the best solution. The problem comes from the spillover or external effects of each individual's actions on the well-being of others. These effects can occur at both ends. The cities and regions that experience rapid growth have trouble coping with the flood of immigrants. Air becomes polluted, highways clog, schools and social services become overcrowded. If any single individual is weighing the costs and benefits of moving to California he certainly will measure the cost of the congestion caused by those already there; but he does not take account of the fact that he himself is adding to the congestion of others. For any single individual the miscalculation is minor, but added over thousands of migrants a year it becomes a major uncounted social cost.

The cities that experience an exodus can also suffer. Local businesses lose their customers, neighborhoods start to decline and tax bases erode.

The value of social capital accumulated over many years becomes wasted through disuse, and quickly through decay as maintenance declines with the declining tax base.

Ironically, cities or areas experiencing simultaneous inflows and outflows of migrants can suffer the most of all. The outflow of the affluent middle class creates most of the problems of the declining areas while the inflow of poor and unskilled families creates most of the problems of the expanding areas. New York City which had a population of around four million in 1946, grew to over eight million by 1966 and fell back to seven and three-quarters million by 1976 is the obvious example of the dual problems of immigration and emigration.

So suppose we accept that migration flows can cause problems, don't we at least have the compensation that the flow of people should eliminate structural unemployment? Not entirely, it seems, because the people who move tend to be young and active. There remain behind the middle-aged who have strong roots where they are, who have houses whose resale value has declined, who have skills and experience in industries that have disappeared to changing technology or foreign competition. The young and, to some extent the retired, can and do move, but the family with a mortgage and teenage children is more constrained.

It is odd, in a way, that the adjustment of the private economy to regional disparities should involve so much movement of people. If an industry like shoes or textiles goes into decline one might expect a firm in an expanding industry to take advantage of the labor available and even of the factory buildings in the town where the old factory has closed. Even if this process did not take place immediately the persistence of high unemployment in an area should depress relative wages and encourage new employers. In practice, however, this side of the adjustment process of the private economy does not seem to work terribly well. As business conditions in an area worsen, consumers and investors cut back expenditure and business conditions worsen further. Persistently high unemployment does depress wages, but only little and slowly. Of course firms do look at labor costs and labor availability when making their locational decisions and some do move into the vacuum created by plant closures. But, in general, declining regions have had considerable difficulty attracting new firms despite various state tax incentives.

Clearly a PSE program of modest scale is going to have only a minor impact on structural unemployment and migration patterns, but the point is that the existence of these problems does give a case for a regionally structured program. And for some hard-hit communities public jobs could be a life-saver. A fraction of the money injected into a region is spent on locally produced goods and services. This improves the sales of local stores and businesses, which in turn generates more local employment. The forces that lead to the cumulative economic decline of a region can act in reverse to provide a basis for economic recovery.

Perhaps the biggest practical obstacle to instituting a regional PSE program is political. Many voters who have fled the declining cities for the sunbelt are vehemently opposed to the use of tax dollars to support jobs for the unemployed and poor they left behind. One way to convince these voters that their dollars may be well spent is to remember that large numbers of the poor and unemployed that congregate in Northern ghettoes are migrants themselves or children of migrants. The overall dynamic of depressed areas may be that they remain depressed areas. But we have noted that one part of the adjustment process surely does operate. If jobs are not available in an area, young mobile workers will migrate to find them. The problems of declining areas are going to turn up on everyone's doorsteps -- one way or another.

The fact that New York City is an example of a locality in need of assistance illustrates that a good regional policy should be based on more than overall regional averages. New York City is not a low per capita income area. But it is an area with many poor people and with serious migration problems -- both jobs and people. One could tax the rich residents of the city or state in order to provide jobs programs. But this would risk worsening the problem of emigration of the affluent. Thus there is a case for a Federally funded and coordinated program targeted to those regions with structural employment problems.

PSE for the Hard-to-Employ

Even in the most prosperous regions there are some people who seem to have a tough time finding jobs. Breakdowns of unemployment rates show the unskilled with a much higher rate than the skilled, blacks with twice the rate of whites, teenagers with four or five times the rate of adults. The overall unemployment rate for persons over fifty is low because most such workers have secure positions. But those who do lose their jobs spend a very long time (several months) unemployed before finding a new job or becoming discouraged and leaving the labor force. Whatever their demographic group persons with criminal records or drug or alcohol problems nearly always have trouble finding (legal) employment.

There is a good deal of controversy about the nature and causes of this kind of structural unemployment. The controversy is not especially a doctrinal dispute among academic economists. Practical men and women who have worked in programs to help hard-to-employ and talked extensively to employers have, at different times, assured us that a) "There are plenty of jobs available. But people in these groups just won't take them or won't stick with them" or b) "Saying the hard-to-employ do not want to work is a base slander. If a few low-wage vacancies are advertised, the employer is mobbed by applicants."

This debate is reminiscent of the debate that has been going on for years as to whether unemployment in general is voluntary or involuntary. To attempt a clear-cut resolution of the question is probably a mistake. The famous argument in economic theory in the nineteenth century about whether the market price of a commodity is determined by the cost of production (supply) or by the willingness of consumers to pay (demand) was, of course, resolved by Alfred Marshall who pointed out, what seems just common sense to us now, that price is set by the interaction of the supply curve and the demand curve. Similarly, the problem of the hard-to-employ results from an interaction between the characteristics of the workers themselves and the characteristics of the labor market in which they have to operate.

If such workers searched more intensively, were more punctual, diligent and willing to follow orders while on the job, and were willing to put up with menial jobs and poor working conditions, then their unemployment rate would almost certainly be lower. If there were no union hiring and wage restrictions, no racial prejudice, no minimum wage laws, no heavy payroll taxes and if there were more job training and counselling programs, then it is equally certain that there would be fewer workers in the hard-to-employ category.

In fact the two sides of the story probably have an influence on each other. A vicious circle seems to have developed for some groups of workers: employers are reluctant to hire and train them because of their actual or alleged deficiencies as workers, while the workers themselves become discouraged and hostile because of the lack of good job opportunities. This argument applies particularly to teenagers and even more so to minority teenagers. Very large numbers of teenagers are apparently disillusioned, dissatisfied and delinquent, so that even if their predicament is partly attributable to their own actions, there is still a social problem that needs a solution.*

Recognizing that a combination of factors gives rise to the problem, the focus should be on how much reduction in this type of structural unemployment might be achieved by various policy measures, and specifically by the provision of public service jobs.

If funding were provided for a number of PSE jobs for hard-to-employ, would there be an increase of the same number in total employment in the long run? The answer to this is almost certainly no. There are several reasons for this conclusion, all of them resulting from the repercussions on the private labor market of the provision of PSE jobs. At the point where expansionary policy is halted for fear of accelerating inflation, there is just a balance between the weight of the pool of unemployed workers holding down wage inflation and the upward pressure of wage demands and scattered labor shortages pushing up wage inflation. Now, on account of the factors given earlier we think that the hard-to-employ do not have the same weight as other workers when it comes to holding down wage increases, but that they do have some weight. The hard-to-employ are generally at the back of any queue of people applying for a vacancy, but if there is no one else in the queue then employers will hire those workers who are available. Unions may not fear the direct competition of unemployed workers at the factory gates for their members' jobs, but they do fear the expansion of small nonunion firms indirectly threatening their jobs. And, of course, union members have relatives and friends who want union cards and jobs.

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*Teenagers are a particularly conspicuous example of the hard-to-employ. One hears a lot about the teenage unemployment problem today; indeed it is a problem that has become worse and has become a larger fraction of total unemployment as a result of the baby boom. But, just as importantly, it is a chronic problem, one not likely to go away. When the economy is expanded and vacancies increase, teenagers do not seem to fill the available positions to anything like the degree one might have hoped for or expected, and this seems to have been true for at least twenty years. The unemployment rate for all teenagers was 13.4% in 1949 and has exceeded 10% in every year since 1954. It was 29.9% in 1975. The unemployment rate of black teenagers has exceeded 25% in all but two years since 1958 and was 36.9% in 1975.

The upshot of this is that the injection of some PSE into a situation of balanced inflationary and counter-inflationary forces would tip the balance in the inflationary direction, even if only slightly. In order to restore the pre-existing equilibrium, private employment would have to fall. The really hard question is by how much? This in turn depends importantly on the design of the PSE program. If the PSE jobs were very deliberately aimed at the most disadvantaged workers, such as inner-city minority youths or those who have been unemployed for several months, then the compensating decrease in private employment would almost certainly be small, perhaps barely perceptible. If the jobs were appropriated by the politically well-connected or by the same people that normally hold state or city jobs, then one might have to reduce private employment by close to the same number as the number of public jobs -- or alternatively take the inflationary consequences.

In summary, therefore, the implications of this discussion for a PSE program are as follows:

(1) While there is an immediate need for expansionary policies, the fear of inflation is sure to constrain the speed and extent of economic recovery.

(2) By using a selective or targeted PSE program the inflationary consequences of the recovery can be minimized. This fact provides a case for PSE jobs as part of a stimulus package, rather than relying purely on nonselective or general measures such as a tax cut.

(3) The principle involved in a targeted program is to provide jobs for those who find it hardest to find private jobs. Such workers could be taken off the unemployment rolls without major repercussions on private employment or wage inflation.

(4) Two, somewhat overlapping, groups of workers that are suitable targets for PSE jobs are workers who are in depressed areas and workers who through lack of skills, lack of experience or prejudice find private jobs hard to obtain.

(5) These structural problems have been a persistent feature of the American labor market for many years so that a long-run program may be called for.

(6) The migration of families and individuals in response to economic disparities has been an important cause of social and economic problems both in the U.S. and in many other countries. There are sound reasons why a regional policy should try and sustain and revive depressed areas and this too provides a case for a regionally targeted PSE program.

(7) If jobs are not sent to unemployed workers, the workers will come looking for jobs. Congestion problems already plague the growing areas of the southwest. Thus there are good selfish reasons why voters in Texas or Arizona might wish to subsidize jobs programs in the North East or Mid-West.

WAGE SUBSIDIES AS AN ALTERNATIVE TO PSE

Many of the structural goals of PSE could in principle be achieved by use of appropriate incentives to the private sector. In particular, there could be tax incentives given to firms that located in depressed areas or subsidies given to firms to hire hard-to-employ workers. Let us look at the second of these first.

The main considerations involved in choosing between wage subsidies and public jobs for the hard-to-employ are: i) how much substitutability is there between "regular" workers and the target workers? ii) could a PSE program produce useful social output? iii) is one or other alternative more feasible politically?

There is a widely-held view that giving subsidies or incentives to private employers to hire hard-to-employ workers is somehow automatically a more economical way of employing any given number of such workers than is a PSE program. Instead of paying the entire salary, the argument runs, a subsidy of say ten or fifteen percent of the salary could induce a private employer to hire the same worker. This argument is misleading, however, because in practice the wage subsidy will be paid on many workers who would have been employed anyway.

Consider a specific example. Suppose, as has been suggested, that a way subsidy is offered to any employer hiring members of some target group. Perhaps ten percent of the wage bill is paid as a subsidy on eligible employees. This will certainly encourage the private employment of the target group, but unless this group is very peculiarly defined, many of its members would have been employed anyway, and employers can claim the subsidy on all eligible employees. To see the effect of this, suppose that the ten percent wage subsidy increases target employment by ten percent also. In this reference case the total wage subsidy paid out will be 10 percent of the wage of 100 percent of target employees. This is exactly the same as 100 percent of the wage cost of the additional ten percent of target workers hired. In this special case, the wage component of the budgetary cost is the same for either method -- PSE jobs or a wage subsidy.

The key parameter in this reference case is the one measuring the degree of substitutability between target workers and "regular" workers. The reference case had a ten percent wage change inducing a ten percent employment change, i.e., the percentage changes are equal. There are a few empirical estimates of substitutability available and some anecdotal evidence also about how willing employers are to put hard-to-employ or teenagers into positions normally held by regular workers. We do not claim firm knowledge of the answer, but the reference case used above looks fairly optimistic in regard to the effectiveness of a wage subsidy. There are certainly cases where even a wage subsidy approaching 100 percent would not lead to any additional hiring of hard-to-employ workers, because such workers lack essential skills or experience. On the other hand it is hard to find plausible examples where the employment response is larger than in the reference case.

Thus this first-round calculation suggests that a wage subsidy is probably as expensive or even a more expensive way of increasing employment of the hard-to-employ. The first-round calculation is not the end of the story, however. There are several further issues relevant to a comparison of alternative strategies.

In addition to the direct cost of the wage payments made to workers participating in PSE jobs there would be necessary costs for supervisors, instructors and materials. These overhead payments would push up the cost per target worker hired. Furthermore, the productivity of hard-to-employ workers is likely to be low so that the value of the social product produced by PSE employees will probably be rather low also.

Both of these additional considerations are surely valid, but one should be careful before interpreting them as arguments that necessarily favor the wage subsidy alternative. If hard-to-employ workers require extensive training and supervision then this will be true whether they are in private or in public jobs. Similarly if such workers have little skill or experience they will surely have a low productivity in either type of job. Thus both of these additional considerations that are relevant to the cost of public jobs, also provide compelling reasons why even a substantial wage subsidy will induce only a modest increase in private employment. The simple fact is that if there is a group of workers in the economy who have always been outside of or on the fringes of the mainstream of education, training and employment, then it is going to be expensive to draw them into either private or public employment. In the longer run one hopes that these workers will acquire the skills and experience to raise their productivity and that they can then be employed with a more equal balance between output produced and wages paid. But initially the balance will not be there.

This leads to another consideration in the comparison between subsidies and PSE jobs. Perhaps the strongest argument in favor of inducing private employment of hard-to-employ is that having once drawn these workers into the private sector, they can hope to remain in the mainstream labor market and become regular workers after their subsidy period has ended. With PSE jobs there is a transition problem -- can a flow-through of workers be set up with "graduates" of PSE programs normally entering regular jobs? To evaluate the strength of this argument requires both an appraisal of the likely placement success of PSE graduates and a guess about the chances of subsidy recipients keeping their jobs once the subsidy has ended. The experience with CETA programs and other training and retraining programs does not suggest optimism about placement out of public jobs. One might hope for some placement into regular federal, state and city jobs from a PSE program and, further, there has been a wide diversity of experience with CETA and related programs. Some of these programs did well even if the overall picture is not very good. One can hope to learn from the experience of the best programs. Guesses about retention of private jobs are just that. Doubtless some people would learn new skills and integrate themselves into the private market and others would drop out again. What the proportions would be, we just do not know.

In assessing the two alternatives in terms of long-run placement prospects it is important to have the correct mental picture of what the most likely private jobs will be for subsidized workers. The image of a youngster learning how to operate a machine tool is attractive but implausible. There has been little growth in manufacturing employment in the past twenty years and one can hardly expect to displace regular adult workers to any extent -- even if that were desirable. The more relevant alternatives are probably serving hamburgers versus serving mashed potatoes in a school cafeteria, or typing reports in an office versus typing reports in the local library.

It is probably wise to be rather pessimistic about the speed with which hard-to-employ workers can overcome the problem of low skills and/or prejudice. One should expect to provide public jobs or wage subsidies for a sustained period of time -- perhaps even for several years -- in order to allow time for the transition to regular employment. Consider a distant analogy. It takes four years at $7,000 a year for fees and room and board plus another $5-10,000 a year in additional costs to produce one graduate of a private college. And most such graduates then go on to further training (including on-the-job training) before they are able to contribute much productive activity. Why would one expect programs for the hard-to-employ to be cheap?

The next basis for comparison between subsidies and public jobs is the relative distributional consequences of the two alternatives. The great disadvantage of wage subsidies is that much of the money will end up as extra profits. The aim of the subsidy is to increase the demand for hard-to-employ workers. Part of the benefit of the subsidy goes to those workers who are enabled by the program to find jobs. But our preceding discussion of the cost-effectiveness of a wage subsidy pointed out that the subsidy would also be paid on many workers who would have been employed anyway. The subsidy payments would go almost entirely to the profits of the employers. Rough calculations show that even under assumptions favorable to the wage subsidy, the largest part of the total value of any subsidy goes to increased profits.

The dilemma this poses is somewhat analogous to the debate about deregulating domestic energy prices. One wants the incentive effect of higher prices to induce more output, but one dislikes giving windfall profits on all intramarginal production simply because OPEC has raised the cost of imported energy. Making this parallel does not say the two cases are exactly alike nor does it say both arguments should be resolved in the same direction. But the parallel does make one wonder about a more subtly applied subsidy. The attempt has been made to deregulate the price of new oil and regulate the price of old oil. Could there be a subsidy on new hiring or marginal hiring? If so, the distributional consequences might look better and the cost effectiveness calculations could swing more favorably towards subsidies.

The trouble with such an idea is the administrative difficulties it poses. Identifying old and new oil has proved difficult, given, for example, the possibility of squeezing extra output from old wells. Identifying marginal workers is harder still. And it may simply result in a recycling of the target group of hard-to-employ. For example, if an employer can get a subsidy on any teenager hired from the unemployed, but not on teenagers he has already, then his incentive to get rid of his existing teenage employees is obvious. This incentive would hardly be lost on the existing employees. A subsidy to incremental hiring is more feasible. The employer would have to show that the new hires were additional to some previous level of employment. This approach favors growing industries, however. And it would not necessarily give much gain compared with the cost-effectiveness of a subsidy to all target workers, because only a fraction of firms would find it profitable to change their hiring behavior.

The tendency of a wage subsidy to go mostly to profits is a serious problem. But, at least in principle, it is soluble by making a suitable adjustment in tax schedules. The important thing is to recognize the distributional consequences and not to think that the subsidy itself is primarily a transfer to workers.

Another aspect of the distributional question that is not clearly soluble is that employers will always pick from among subsidy-eligible workers those that are most productive, least disadvantaged. But the structural aims of the program are to give the greatest help to the most disadvantaged. If one really wants to get at the back of the queue, it is hard to do so with a system of private incentives. It may be slightly easier to tackle the distributional questions with PSE, because the explicit aim of such a program is not to make a profit but to achieve structural manpower goals. By locating the hiring offices and perhaps the jobs themselves in inner-city areas or depressed areas more generally, the jobs are made most easily available to the target groups. The selection process can be designed to favor the neediest. In practice the aims of the program would be distorted by patronage or other problems. Certainly careful guidelines would have to be set to ensure the fulfillment of the structural goals.

Finally, another dimension in the comparison of the two approaches is political feasibility. This issue is not ordinarily the preserve of the economist. Still, it may be worth pointing out some of the political obstacles likely to arise under either or both approaches. With a few exceptions, labor unions have not historically been very sensitive to the labor market problems of teenagers or other disadvantaged groups. It is likely that if public policies are seen as a threat to union jobs, then they will be resisted. Either approach -- subsidies or public jobs -- could be seen as a threat.

Wage subsidies for teenagers are very directly and obviously a threat to the jobs of adults and union members. The individual worker fears that the number of jobs existing is basically given. It follows that if more of them are reserved for special groups, fewer will be available for the rest of the labor force.

There are already workers providing social services. In recent years layoffs and cutbacks have been common among such workers. If a jobs program paying lower-than-union wages is brought in to usurp the functions of other city workers, this too will be seen as a serious threat to be opposed.

As between the two approaches, however, one can argue that public jobs that provide new and/or different public services will probably experience somewhat less opposition than a wage subsidy that is always designed to give some workers an advantage they did not previously have.

It must be clear from the back and forth arguments presented that a clearcut resolution of the subsidies-versus-public-jobs issue is not possible. Let us summarize the basic points as follows:

(1) To the extent that we have argued for PSE jobs over subsidies it is to counter the naive view that using the private sector is always a cheaper and better way of achieving a structural goal. There are sound arguments on either side.

(2) The main advantage of PSE is that it can be more easily and more accurately targeted at the people to be helped. It does not rely on substitutability among workers.

(3) The main advantage of a wage subsidy is that it may make it easier to bring hard-to-employ into regular jobs.

(4) Additional considerations to the comparison are i) a large part of any wage subsidy accrues to employers' profits, ii) PSE looks more feasible politically, iii) PSE may be corrupted by local patronage problems and this would need a bureaucracy to counteract.

(5) Low productivity workers are going to have low productivity whatever they do. Genuine progress towards structural goals is likely to be slow and expensive.

(6) Perhaps a mixed strategy of using both public jobs and subsidies is suggested to try and exploit the differing advantages of the two approaches.

IMPLICATIONS FOR THE DESIGN OF PSE PROGRAMS

Summarized in the simplest possible terms we have found that the main advantages of PSE, in comparison with conventional fiscal policy, lie in its selectivity or targetability, in its high first-round job content per dollar of expenditure, and in its somewhat larger impact on GNP per dollar of increased budget deficit. These are important characteristics for their own sake, and because they offer the promise of expanding employment with minimal addition to inflationary pressure. The main disadvantages of PSE lie in the possibility of large-scale fiscal substitution, and in the danger that PSE jobs will add very little to their holders' prospects of success in the straight labor market. Fiscal substitution tends to reduce PSE to a version of revenue-sharing. If the jobs are dead-end and unproductive, PSE becomes little more than a form of income maintenance.

If these are the main advantages to be sought and the main pitfalls to be avoided, then they imply a set of interrelated conclusions about the design of a useful PSE program, and the purposes which such a program can efficiently serve.

(1) The strongest case for PSE can be made on structural grounds, to help hard-to-employ and depressed regions, with smaller inflationary effect than conventional fiscal and monetary policy. The problem of structural unemployment is a chronic one and it is necessary for PSE to be carefully designed and administered if it is to tackle the problem. This suggests that a quick-stop, quick-start program would run into trouble. If job slots have to be produced quickly, and if they are to be of any

quality at all, ordinary local government services are almost certain to be the only available source. This will mean that selectivity will certainly be degraded because prime sponsors and public opinion will resist the replacement of regular local government employees with target-group workers. If job slots disappear as soon as the overall unemployment rate declines then it is unlikely that real progress will be made in helping the hard-to-employ in the long run. An efficient program should be planned on a fairly long-term basis, because the need will be with us for some years to come. Even in good years, it is to be expected that the scale of PSE will be far from negligible. In turn, long-term planning provides an opportunity to build up a stock of useful job slots which will both produce valuable current output and enhance the future employability of the workers.

(2) If the reduction of structural unemployment is the primary objective of PSE, then clearly selectivity is very important. Every effort should be made to verify that the jobs reach the intended populations. It has already been pointed out that the verification of selectivity and the avoidance of fiscal substitution are complementary objectives. If the second is missed, then the first will certainly fail. Planning for PSE should keep both objectives in mind, and should build in a serious mechanism to police their achievement.*

(3) The reasoning so far seems to imply that PSE should not be used to help provide routine public services. That would invite fiscal sub-

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*See Katz and Wiseman for a discussion of some of the difficulties.

stitution. On the same hand, it is clearly very desirable to avoid unrewarding work of low productivity. The combination of needs suggests that planning for PSE might aim at fairly long-term urban maintenance, local public works and special services that are unlikely to be provided routinely through state and municipal budgets. This suggestion fits rather well with the conclusion that a substantial PSE program is likely to be a long-term need, because it means that substantial projects can be launched with the assurance that they will be carried through to the end under the program.

(4) Since the reduction of structural unemployment is the main target, and the operation of serious long-duration projects may be the preferred instrument, it is possible that one should contemplate individual workers remaining in PSE for fairly long periods.* This would probably be a contribution to the ability of the program to achieve useful output; and it would certainly assist the goal of providing training and transferable work experience to disadvantaged workers. One must admit the possibility that this feature of PSE might work against transition to the straight labor market.

(5) One way of making transition to private employment attractive is to offer fairly low wages in public service employment. To do so would also make it easier to avoid fiscal substitution; and it would increase the number of jobs created per dollar spent. However if, as suggested, individual workers might remain in public service employment for fairly

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*Katz and Wiseman suggest a maximum of a year. With slightly changed objectives, a slightly longer stay might be appropriate.

long periods, equity requires that wage rates rise with good performance over time. Thus, after a year or more in public service employment, a worker who has deserved and received wage increases might find it difficult to make the transition into private employment. A natural response would be to set a low starting wage, perhaps near the statutory minimum, but with semi-automatic wage increases keyed to the private economy. It may be that there is no good solution to this problem; and the wage scale will have to be a compromise among several objectives, among which are the provision of incentives for performance, equity, and the promotion of reasonable rates of transition out of public service employment.

(6) This difficulty suggests a possible role for (partial) wage subsidies in private employment. We argued earlier that wage subsidies are unlikely to be a useful substitute for public service employment (because a small subsidy leads to creaming, and a large subsidy becomes a transfer to employers). But perhaps a properly-written wage subsidy can supplement PSE, in the following sense: if a fair wage scheme in PSE leads to a wage scale where top is high enough to hamper transition into private employment, then partial subsidy of the PSE "graduate's" wage might be an offset, helping to smooth the way into private employment.

If, as we have suggested, PSE might be used as a replacement for unemployment compensation after 26 or 39 weeks, then there are further implications for the wage scale. One possibility is that the PSE wage, at least in its higher reaches, should be slightly higher than an experienced worker's unemployment compensation benefit, wages of course lower than his or her normal wage. This should be possible, given that the average benefit check in 1977 was between $75 and $80 per week, actually lower than the statutory minimum wage for a 40-hour week.

STUDY OF THE NET EMPLOYMENT EFFECTS OF PUBLIC SERVICE EMPLOYMENT - ECONOMETRIC ANALYSES

BY

PROFESSORS MICHAEL BORUS AND DANIEL HAMERMESH

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PREFACE

The following paper is written for the intelligent layman and not for the econometrician. We have avoided the use of jargon and attempted to explain some of the fundamentals of economics in a simple fashion. If we have succeeded, the following should be intelligible to all. The professional, however, may choose to skim through some of the explanatory material.

SUMMARY

There is a broad range of relevant evaluation issues dealing with public service employment (PSE) programs, but only one has received widespread attention. This one issue can be expressed as either the job creation question--"To what extent does total state and local government employment, including PSE, rise when PSE slots are created?"--or the fiscal substitution question--"To what extent do state and local governments decrease their regular non-PSE employment as the number of PSE slots increase?" The focus of both questions is a narrow one concerned only with the changes in state and local government employment induced by PSE funds.

However, the broader issue of the effects of PSE on aggregate employment and employment in the communities receiving PSE funds should also be considered. Most of the literature has assumed that fiscal substitution implies that PSE grant money has been used for tax reduction. If true, this use is probably as stimulatory to aggregate employment as would be a cut in federal income taxes. There are, though, other uses for funds freed by the substitution of PSE for non-PSE state and local government jobs. These have different and varying implications for the amount of aggregate employment stimulation, and they appear to have escaped the attention of many researchers of the fiscal substitution issue. They include using the funds to increase transfer payments, such as welfare, to local citizens; retire debt (or to reduce borrowing); to build fund balances; and to increase expenditures on items other than direct government employment. Generally, we conclude that the first will create approximately the same amount of employment as a federal tax cut, the second and third will have little if any stimulative impact, and the last is likely to have more employment impact than a federal tax cut and possibly more impact than an increase in federal expenditures.

Confirming attention to the econometric literature on the narrow question of whether fiscal substitution occurs, we find that only two sets of studies have produced original estimates based on data describing actual PSE programs. These are the NPA study (26), which used cross-sectional data to compare local governments' employment, and the work of Johnson and Tomola (13), (14), and (15), all of which used time-series data on aggregate state and local government employment. Other estimates of fiscal substitution either represent critiques or reworkings of the results presented in these two studies (Wiseman (27), for example), or are based on assumptions about government behavior and evidence from programs other than PSE (such as the work by Fechter (17) and (8), and Cook, et al., (5)).

The econometric studies present widely varying estimates of the degree of fiscal substitution that occurs. The NPA study suggests that net job creation is 54 new state and local government jobs per 100 PSE slots one year after the program is introduced. Johnson and Tomola in their final paper show a declining net employment impact of PSE with approximately 40 jobs created one year after slots are provided and no job creation six quarters after the program starts. More serious than this discrepancy between the estimates in the two studies are the huge changes in the estimates when minor variations are made in the assumptions underlying the studies. For example, Wiseman shows that a minor change in one assumption increased the estimated job creation effect in the NPA study by 14 jobs per 100 PSE slots funded. Even more striking are the changes in the Johnson and Tomola results when small changes are made in econometric methodology. We reestimated the net job creation six quarters after 100 PSE slots are funded and found a range from 44 new jobs to a net loss of 142 jobs, depending on how the model was specified to correspond to hypothesized relationships between state and local government employment and its determinants, including PSE. Some of these relationships appear more realistic than those used by Johnson and Tomola.

Thus, taken together the studies provide a very broad range of estimates of the net job creation effects of PSE depending on the assumptions, specifications, and data used. A false sense of precision arises if the estimates of any single study are viewed alone. Based on the econometric studies, we can say little other than there are some jobs created by PSE.

While the econometric studies have not as yet produced a satisfactory estimate of the degree to which PSE induces fiscal substitution, we find that the alternative techniques to examine this problem--surveys and the stationing of professional observers--hold only limited promise. They too are based on assumptions and judgments and often must rely on incomplete or inaccurate data. What we suggest is an approach that combines these techniques with those of econometric studies.

To improve the latter, we suggest the use of cross-sectional analysis that examines not only the effect of PSE on state and local government employment, but also these governments' expenditures, taxes, financial reserves, and debts. It is our conclusion that while no single econometric study is likely to answer the job creation and fiscal substitution questions, econometric analysis does offer a useful tool for the development of policy in this area.

I. INTRODUCTION

Public service employment (PSE) encompasses legislation such as the Emergency Employment Act of 1971, Title II of the Comprehensive Employment and Training Act of 1973 (CETA), and the amendments to CETA implementing and altering its Title VI, which provide federal government grants to state and local governmental units to enable them to increase the hiring of public employees. There are many objectives proposed for such programs. They include (1) to increase aggregate employment in the nation; (2) to increase employment in the communities to which funds are allocated; (3) to increase the amount of public services provided in these communities; (4) to reduce the financial strain on the governmental units receiving funds; (5) to change the demographic composition of public employees in areas receiving PSE funding, increasing employment of the "disadvantaged"; (6) to provide work experience to the disadvantaged in order to increase their competitiveness in the labor market; and (7) to provide income maintenance to the disadvantaged.1/

These goals are in many respects overlapping. Increased local and national employment may result from increasing the amount of public services provided by the disadvantaged. The goals, however, may also work at cross-purposes. Hiring the disadvantaged may lower the average productivity of public employees and the output of public service and, particularly important to this paper, reduce the financial burden on recipient governments if some of the federal funds are spent on providing services that would otherwise be funded with local taxes. Therefore, it is necessary to examine the effects of public service employment programs on all of the above goals or to exclude only those goals on which agreement that they are not relevant has been reached.

1/ Discussion of these goals may be found in National Commission for Manpower Policy (25).

In the case of the present study, Congress requested that the National Commission for Manpower Policy (NCMP) concentrate on an examination of the net job creation aspects of PSE--objectives 1 and 2 above. This concern with the extent to which public service employment programs are increasing aggregate national employment and employment in the grantee communities arose out of three econometric studies appearing in 1974, by Fechter (17), Johnson and Tomola (13), and the National Planning Association (26). Each of the studies examined the effects of providing PSE slots on local and state government employment and concluded that the grantees were using part of the PSE funds in the place of their own revenues to hire individuals for jobs that would have been filled in the absence of the PSE program. This phenomenon became known as the fiscal substitution effect.

The Council of Economic Advisors in the 1975 Economic Report of the President (6) implied that these studies indicated that public service employment had limited job creation abilities and was a less appropriate tool for federal countercyclical policy than were alternatives that would be less inflationary. The debate then became political, with the proponents of PSE arguing that the studies had either improperly estimated the extent of fiscal substitution 2/ or that even with total fiscal substitution, PSE was no worse than the alternative policy proposal for a tax cut.3/ The opponents of PSE countered that PSE, because of fiscal substitution, was a sham that created few new jobs and prevented necessary stimulation of the private sector.4/ In the course of the debate both sides chose not to consider the nonemployment-related goals of PSE and concentrated the discussion on the substitution effect.

2/ Killingsworth (19).

3/ Johnson, Ashenfelter and Ehrenberg (12).

4/ MacAvoy (21).

This is the context in which we were asked by the NCMP to review the econometric studies of PSE. In the course of this paper we proposed to accomplish four tasks:

(1) Review the relationship between the substitution effect and net job creation. In this review we will point out that the lack of job creation and the substitution effect are not synonymous.

(2) Describe the econometric studies of PSE and note their strengths and weaknesses in terms of estimating the net job creation associated with PSE.

(3) Provide alternative estimates of the substitution effect based on the use of different assumptions other than those used in the studies, thus showing how sensitive the estimates are to minor changes in the assumptions.

(4) Suggest a more appropriate methodology for conducting econometric studies of the net job creation effects of PSE and indicate the merits of the proposed approach.

II. THE RELATIONSHIP BETWEEN FISCAL SUBSTITUTION AND NET JOB CREATION

The rationale for the aggregate job creation effects of public service employment programs is very straightforward in its simplest form. If public employment is increased by one employee, initially, aggregate employment is also increased by one employee. In addition, most of the earnings of the new employee will be spent, increasing the demand for the services of workers in the private sector, leading to a multiplier effect on aggregate employment. Further, since all of the original moneys are spent on the purchase of services, PSE will have a greater "multiplier" impact on aggregate employment than will a tax cut of equal magnitude some of which will be saved and not spent. Following this logic, if the grantee does not use a percentage of his funds for additional public employment, the job creation impact is reduced proportionately.

There is an extensive list of studies in the economic literature that have attempted to determine the extent to which federal funds given in grants to lower governmental units have influenced the budgeting and expenditure behavior of these governments. This literature has been summarized by Gramlich (9). He concludes that the effect of the grant will be determined by the conditions that are attached to it.

Open-end matching grants that can be used only for specified purposes, such as for public assistance, lower the cost to the grantee of providing that service (its price) and are designed to increase the amount of the service brought by the lower governmental unit. Based on his review of studies, Gramlich finds that the amount of additional spending generated is less than or equal to the amount of the grant. Closed-end, nonmatching, lump sum grants, such as general revenue sharing funds, are also usually found to generate less additional expenditure than the amount of the grant. Gramlich further concludes that the net increment in spending is less with this type of grant than with open-end matching grants. Finally, closed-end matching grants for specific purposes, which include grants for highways, health, and education, appear to generate expenditures equal to or greater than the amount of the federal grant. The estimated increments in expenditures have a very broad range, however, and seem dependent on the size of the grant relative to the grantee's normal expenditures on the item in the grant and the extent to which the item being bought under the grant can be distinguished from normal budget items.

While PSE does not fall completely into any of these categories--it is a closed-end, nonmatching grant, but it is conditional in that it may only be spent for specified purposes--the literature on grants seems to indicate that not all of the grant from the federal government will go to increase public employment. Local and state governments could use part of their own funds, which would have been used for employment in the absence of PSE, for other purposes: (1) to reduce taxes, (2) to increase transfer payments, (3) to reduce borrowing, (4) to increase unencumbered fund balances, or (5) to increase nonemployment expenditures. The impacts of the fiscal substitution effect on job creation will depend on which of the five alternative uses of the "released" funds is selected by the grantees. This should be evident from a review of the aggregate and community employment effects of each of the alternatives.

Aggregate Employment. The alternative use of released funds usually assumed by the opponents of PSE is to reduce the level of taxes or the rate of tax increase. The belief that taxes will be reduced arises from the assumption that society divides its income between private and public purchases of goods and services so as to maximize community utility. A higher level of personal income caused by a federal grant and not offset by higher federal taxes to finance the grant should then lead to higher purchases of both public and private goods. The exact increases will depend on the percentage of additional income that society wishes to devote to each. The increases in private purchase will be financed by tax reductions allowed by the released funds. When state or local government taxes are reduced, there should be an economic stimulus equal to that of a cut in federal taxes--with the same job creation effects.

A similar effect will take place if the released funds are used to increase transfer payments. In the first instance there will be no job creation effect, but as the recipients spend the funds for additional purchases of goods and services, there will be a stimulative effect such as would result from a tax cut. Another alternative would be for the grantee government to use released funds from PSE to reduce its debt by borrowing less or increasing its debt repayment. The job creation effect of such actions would depend on the subsequent behavior of the bondholders. If they merely buy other bonds there will be no expansionary effect.[5] If, on the other hand, the funds are spent the job creation effect will be similar to that with a tax cut. Finally, if the funds are deposited in banks there will be an expansion similar to an open market purchase by the Federal Reserve.

Another possible use of the displaced funds is to build fund balances. This alternative would appear unlikely, at least during recessions when local and state governments are usually faced with deficits due to declining revenues. If the funds were to remain idle the PSE program would have no stimulate effect on the level of national employment. Again, however, if the funds enter the banking system, the impact could be similar to an expansionary monetary policy.[6]

The fifth alternative will be for the grantee governments to spend the released funds for goods or services other than increased public employment--particularly purchases of goods and services from the private sector. Politicians may wish to increase government services and bureaucrats may want to increase their operations with the grant funds. Both may feel, however, that it is politically unwise because of public resistance to the "growth of government" to increase the number of public employees. Also, due to the temporary nature of PSE funds and the uncertainty of the annual funding levels, they may hesitate to take on the responsibility of an increased number of public employees who may subsequently have to be laid off. Therefore, they increase their purchases of services through consultants

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5/ There is the possibility that the reduced competition for investment funds may lower the interest rate and stimulate private investment.

6/ It should be noted that we do not consider here how the PSE program is financed--by increased taxes, borrowing, or expansion of the money supply. This important determinant of the job creation effect will be discussed in another paper commissioned by the NCMP.

or contractors. Probably even more significant, the displaced funds may be used for capital outlays which can substantially improve community services without involving any commitments to employees. The impact on aggregate employment of these increases in purchases from the private sector will depend on the goods or services which are purchased and the amount of labor employed per dollar of government expenditure. Thus, if the government purchases products which are capital intensive in their production, there may be little additional employment stimulated on this first round of spending. Alternatively, the government may purchase from the private sector services which entail the use of low wage workers and thus have a greater employment impact than that occurring were the money spent on PSE.7/ Thus, if the released funds are spent for goods and services, the effect on aggregate employment will be indeterminate. Increased state and local government spending, however, will have more stimulus than a tax cut. It may provide more or less employment than PSE, depending on how the money is spent.

In summary, the effect of fiscal substitution may be to: 1) diminish the aggregate employment effects to make them roughly comparable to those of a tax cut if the released funds are used to reduce state or local taxes or increase transfer payments; 2) negate all aggregate employment effects if the released funds are not used at all; or 3) increase, decrease, or not alter the employment impact if the released funds are spent on goods and services other than public employment.8/

7/ For this to occur the wage rate paid the private workers would have to be below that paid to PSE employees.

8/ These conclusions about the relative effects of PSE and other fiscal policies rest on the assumption that spending propensities are the same for recipients of PSE wages and those who receive tax cuts, debt payments, transfer payments, or the wages and profits generated initially by a general increase in government spending. If PSE recipients consume a greater fraction of their wages than does the average individual, the multiplier effects of PSE on spending will be greater than those of other policies. However, since there appears to be no difference by income group in marginal propensities to consume, this possibility is not very important in practice.

Community Employment. Like aggregate employment, the impact of PSE on employment in the community receiving funds will depend on the use of released funds. If all of the PSE funds are spent for additional public employment, employment in the community will rise by at least an equal amount, assuming tha the persons hired live in the community. There will probably also be a local multiplier effect since some of the spending by the newly hired public employees will remain in the area.

The local employment effect of using released funds to reduce taxes or to increase transfer payments will definitely not be as great as when the funds are spent on public employment because there will be less spending from the tax cut or transfer increase (some of it will be saved). If the released funds are used to debt reductions, there is likely to be even less local job creation since some of the holders of a community's bonds and notes will not be residents and any additional spending generated will be outside of the community.

The impact of purchases of goods and services on local employment will depend on the source of these purchases. If the released funds are spent on capital goods, there is a good chance that the job creation will be exported since the purchases are unlikely to be manufactured locally. On the other hand, if the funds are spent for personal services almost all of the released funds may go to residents. Finally, the building up of idle fund balances will have no stimulate effect locally or nationally.

Thus, the impact of fiscal substitution will be more strongly felt on local job creation than an aggregate employment. This occurs because spending of PSE funds for hiring local employees does not allow the same opportunities for the exportation of jobs to other areas. While such job exportation does not influence the aggregate impact, it may seriously reduce the targeting ability of PSE to raise an area's employment level.

Implications. The importance of the foregoing discussion is to demonstrate that knowledge of the magnitude of fiscal substitution is not sufficient evidence to determine the net employment impact of PSE. When we only know the fiscal substitution rate, we can do no more than hypothesize about the aggregate and community job creation effects of PSE. We can say generally that the greater the extent of fiscal substitution the greater the probability of a lowering of the job creation impact of PSE. We can also generally conclude that even if there is 100 percent substitution, PSE is likely to create at least as many jobs as a federal tax cut. Thus, neither the opponents or proponents of PSE were correct in discussing the effect of fiscal substitution on the job creation impact of PSE programs. It is usually wrong to claim that a finding of fiscal substitution shows that PSE is utterly ineffective as a countercyclical device. It is true, however, that as the extent of fiscal substitution increases, the program's antirecessionary effectiveness probably declines.

What must be done to answer the central question for evaluating PSE--What are the effects of PSE programs on aggregate and community employment?--is to conduct a three step analysis: 1) estimate the extent of fiscal substitution, 2) estimate how the released funds are used by the grantees, and 3) relate these estimates to the job creation impact of each use of funds. As we will see in the next section of this paper, only the first step was attempted by most of the econometric studies.

III. AN EVALUATION OF THE ECONOMETRIC STUDIES OF PSE

As explained in the preceding section, the major policy question to be answered by the NCMP is, What is the number of jobs created by a given experditure on public service employment? To answer this question it is necessary to know (1) the number of jobs in the economy when a public service employment program exists, (2) the number of jobs that would exist were there no such program, and (3) the difference between these two numbers.

To determine the first number is simple; it can be empirically observed. The estimation of the second, a hypothetical number, is extremely difficult. In order for the comparison of the difference between the two numbers to be accurate, all conditions that might affect the number of jobs must be identical to those that occur when the first number is observed, except for the existence of the PSE program. If equivalent conditions do not exist, it will be impossible to say whether any difference between the two numbers of jobs is due to PSE or to the other factors. Econometrics uses economic theory and statistical controls to try to achieve equivalent conditions. Its potential shortcomings will become apparent if we examine how econometric studies must be constructed.

Econometric studies of the job creation effects of PSE must first identify all of the factors, other than PSE, that may influence the number of jobs. Next, a model is built that specifies the form of the relationship between each condition and the number of jobs. Finally, past observations are used to estimate the actual size of the relationship for each condition, the parameters of the model.

Errors can be introduced at any of these stages. Economic theory indicates that there are many possible factors that affect the level of employment. They include the aggregate demand for goods and services, the prices for those goods and services, the technological relationships between labor and the other factors of production in producing the goods and services, the relative prices of labor and other productive factors, the skill mix of the labor force, relative wage rates for different types of labor and their relative productivities, the location and mobility of labor and other productive factors, and many more. Economic theory, however, does not purport to specify all of the relevant factors influencing the level of employment. Yet, all of these factors should be included in the model, for if an important variable is omitted, the other variables in the model with which it is correlated may take on some of its effects. For instance, if PSE slots are allocated more heavily in periods when aggregate demand is declining but aggregate demand is not considered in the model, it may appear that an increase in PSE is associated with a decrease in overall employment. The true cause of declining employment is the omitted variable, but it appears that PSE is the culprit. Following standard practice, we will refer to this as the "omitted variables problem."

Likewise, if the relationships are not properly specified, there can be problems in determining causality. When constructing the econometric model, the econometrician must specify how the variables move with each other. For instance, does the number of jobs created increase in a straight line as the number of PSE slots increases, or is there a curvilinear relationship? The model can only accommodate one of the alternatives at a time, and once the relationship is specified, the parameters are constrained to fit the model. Thus, if the true relationship between the number of jobs and PSE slots is curvilinear (for example, increasing but at a decreasing rate), but a linear model is estimated, the results will be a poor guide to potential job creation effects of any PSE program that differs in size from past programs. The model builder, by assuming a given relationship, may predetermine the subsequent findings. Problems of this type are commonly called "specification errors."

Finally, faulty data can cause several problems in estimating the actual relationships. First, data may not be available on all of the variables in the model and some variables may have to be dropped, causing the omitted variables problem discussed above. Second, the data may not be accurate, complete, or valid measures of the variables, which will introduce biases into the results. For example, if PSE slots are used as the measure of PSE but there is a delay in filling the slots, PSE may appear to have no effect on employment levels when in fact it does. A third problem arises with the use of past data to estimate future relationships.

Below, we propose to examine the econometric studies of fiscal substitution to determine if these problems exist. Before going through the individual studies, however, we should point out their common features. The studies do not examine the effects of PSE on the aggregate number of jobs.9/ Further, they do not indicate what are the uses of state and local funds that may be "released" by fiscal substitution. Finally, all of the studies only model the effect of providing increased PSE slots on state and local government employment in terms of net employment levels at specific points in time. They do not examine the numbers of hires and layoffs. Thus, in estimating job creation, the studies merely attempt to determine the effect of PSE on the number of persons employed by the grantees. The studies focus exclusively on the job creation question: How much more employment by state and local governments was there at a given point after the receipt of PSE funds than would have occurred were there no program? and its converse fiscal substitution question: How many fewer non-PSE jobs with grantee governments were there at a specific point in time after the receipt of PSE funds than would have occurred in the absence of PSE?10/

9/ A Canadian study by Cook et al. (5) does attempt to measure the aggregate impact of PSE. This is discussed in Appendix A, pages 141-144.

10/ The studies, particularly those of Johnson and Tomola (15) and NPA (26), examine other effects of PSE, such as the ability to increase employment among the disadvantaged and to change the mix of government services.

The basic differences among the studies are in the approach they use to build their models and the type of data they employ. Three techniques and data bases have been used to construct models that show what would have occurred in the absence of the PSE program: the matching of governmental units using cross-sectional data to project past trends in government employment; using time-series data to note changes from before the introduction of PSE; and the construction of macroeconomic models of the economy using aggregate national data. The studies using each of these approaches will be examined separately.

Cross-Sectional Studies

The National Planning Association (NPA) received a contract from the U.S. Department of Labor to evaluate the High Impact Demonstrations that were a part of the Emergency Employment Act of 1971 (better known as the PEP program). The High Impact Demonstrations provided a substantially higher than average number of PSE slots to 12 labor markets distributed across given states. In these areas, slots were provided ranging from 5.3 to 28.1 percent of the area unemployment in December, 1971, with an average of about 7.7 percent.11/ The national average PEP employment, exclusive of summer youth hires, was 128,000 between October 1971 and April 1974,12/ or about 2.7 percent of the persons unemployed in December 1971. The NPA sought to estimate how many additional government jobs were in existence in the High Impact Demonstrations areas in October 1972 as a percentage of the number of PSE slots--the job creation rate. Subtracting the job creation rate from 1.00 will give the fiscal substitution rate.

The basic strategy of the NPA for determining the number of employees in the absence of the PSE program was to find other governments that were comparable to those in the High Impact Demonstrations.13/

11/ NPA (26), op. cit. 3-7.

12/ *Manpower Report of the President*, 1975 (22), p. 45.

13/ For more details see NPA (26), pp. 114-22 and Appendix M.

Data limitations prevented inclusion of state government employment in the analysis. Therefore, only lower levels of governments were matched, using the following criteria: location in same state; same type of governmental unit (whether county, city or town, special district or school district); similar full-time equivalent employment in past five years; and similar distribution of employment over nine functional areas (for example, law enforcement, education, public works) if more than one governmental unit met the earlier criteria. High Impact governmental units had to have complete and plausible information to be included, and there had to be a matching unit. A total of 182 governmental units were matched, which represented 54 percent of the High Impact PSE slots.

The matching process, however, was not perfect. The High Impact governments had higher average employment in the years before the program, and the differential was growing (that is, it was 21.25 in 1967, 27.27 in 1969, 28.41 in 1970 and 33.79 in 1971).14/ To remove the effects of this trend, the average differences were regressed on time. The differences were then projected to 1972 by extending the trend line with a minor adjustment to account for PSE slots in the control areas.15/ Deviations of the estimated differences from those observed in October 1972 were then used as the net new jobs attributable to the High Impact PSE slots.

Findings. The NPA estimated that for October 1972, approximately one year after the introduction of PSE, the average net job creation for all 182 governmental units was 54 jobs for every 100 PSE slots. This meant that there was fiscal substitution for 46 of the PSE slots--46 of the 100 jobs would have been funded out of local taxes or non-PSE grants. Further, NPA looked separately at counties, cities,

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14/ The NPA did not have data for 1968.

15/ The estimated differences were reduced by 1.5 percent. NPA (26), p. 118, n. 2, and p. M-8.

and towns; school districts; and special districts, and found net job creation percentages of 53 percent, 111 percent, 94 percent, and 17 percent respectively. When the governmental units were divided by number of employees, the job creation percentages were 105 percent, -20 percent, 48 percent, 41 percent and 18 percent for units with at least 1500, 1750-1499, 250-749, 100-249 and less than 100 employees, respectively.16/

Discussion. There are a variety of problems with the NPA study.17/

(1) Implicit in the matching process used by NPA is the assumption that by matching on the relatively few factors of state, type of governmental unit, and past level and distribution of employment, they have identified and controlled for the variables that may in the future cause changes in the local employment levels. It is assumed that governments matched in 1967-71 will also be equivalent in 1972. This is extremely unlikely to be the situation, as can be seen by looking at the differences between the average employment levels in the matched areas for 1967-71. If the growth rate for 1967 to 1969 is projected to 1971, one would expect a difference of 35.00 jobs. If the growth rate for 1969 to 1970 is projected, the average projected difference between areas would be 29.60 jobs. The observed difference in 1971 was 33.79 jobs, which was 14 percent higher than the lower estimate and 3 percent below the upper estimate.

16/ NPA (26), p. M-16. The NPA also constrained each High Impact Demonstrations government unit to have a job creation percentage between zero and 100 percent, which gave a much narrower range of estimates, as would be expected. Such a procedure of altering the results of an analysis that seem to be difficult to explain is usually considered improper. Therefore, we will disregard these estimates.

17/ Some of these were noted by Wiseman (27), whose recalculations of the job creation and fiscal substitution percentages will be discussed below.

Thus, what we consider the most serious problem in the NPA study was the failure to identify the factors influencing local government employment so as to isolate changes in the environment other than PSE that might alter differently the 1972 level of government employment in the High Impact areas and the control sites. Examples abound. Was the recession more severe in the High Impact labor markets? If so, both the relative taxing ability and the demand for public services would change. Was the relative size of the school age populations unchanged between the 1967-71 period and 1972? If not, there would be differences in the demand for teachers and other educational personnel. Did the areas receive the same relative amounts of state and federal grants in 1972 as in the prior period? It is possible that one type of area received substantially more general revenue sharing funds from the State and Local Fiscal Assistance Act of 1972. These and many other omitted variables could have seriously affected the magnitude of the NPA findings on the job creation and fiscal substitution rates.18/

(2) The data available to the NPA were limited to local government employment. Consequently, there were no estimates made of the job creation and fiscal substitution effects of PSE on state government employment. It is quite possible that the budgetary impact of PSE differs between state and local governments, particularly in view of the wide diversity of results that are found for jurisdictions of different sizes and types, that is, job creation percentages ranging from -20 percent to 111 percent.19/

18/ The omitted variables problem is common among studies using the matching technique. As matching is attempted on more and more variables, the number of matches decline markedly. Consequently, the studies are constrained in the number of control variables they can use.

19/ NPA (26), p. M-16.

(3) The data do not allow the control sites to indicate clearly what would have happened in 1972 were there no program; the control sites, too, had PSE slots in October 1972. The NPA estimated that 1.5 percent of all state and local government full-time equivalent jobs in the nation were PSE funded and mistakenly reduce the job creation effect by 1.5 percent.

Michael Wiseman (27) recalculated the job creation percentage by subtracting 1.5 percent times government employment in the control areas (to estimate the number of jobs in those areas that were PSE funded) from the number of slots in the High Impact Demonstration areas.20/ The result was a higher job creation rate of 69 percent and a lower substitution rate of 31 percent.

As Wiseman notes, the recalculation of the job creation rate is highly sensitive to two assumptions. First, a slight change in the fraction of government jobs in the control sites that were PSE created will have a large impact on the size of the job creation percentage--it becomes 80 percent and 61 percent (rather than 69 percent) if 2 and 1 percent of the control sites' government jobs were PSE funded, respectively. Unfortunately, there are no data on the control sites provided by NPA to determine which figure is more appropriate.

Second, since there are PSE-funded positions in the control sites, there is also likely to be fiscal substitution there.

20/ See Wiseman (27), p. 88. Using his notation, he said that the observed difference between 1972 government employment in High Impact Demonstrations and control sites (EH - EC) minus the projected difference (d*) gave the increase in jobs from PSE. This was then divided by the number of public employment slots in the High Impact Demonstrations site (PH) minus the number of slots in the control site (βEC). Thus the job creation percentage (α)

$$\alpha = \frac{EH - EC - d^*}{PH - \beta EC}$$

Wiseman assumed that the job creation rates were the same in both the control and High Impact Demonstrations areas. If the fiscal substitution rate is higher in the control areas, as might be the case since it may be easier to absorb a small number of jobs and the control areas were not scrutinized as closely as the High Impact areas, this would lower Wiseman's estimate of the job creation rate.[21]

(4) The data used by the NPA in calculating the base period did not represent the true difference between the High Impact Demonstrations and control sites in the absence of PSE. In both sets of areas, the October 1971 data include some PSE jobs, but the number of PSE jobs for the governments in the NPA comparison areas is unknown. If, however, the High Impact Demonstrations governments had filled relatively more jobs through the use of PSE funds, then the estimated difference in the absence of PSE would be overstated, which would understate the job creation percentage.

There are many major errors and problems imbedded in the NPA estimate of the job creation percentage. The specificity of their 54 percent estimate hides the likelihood that the truth may be very far from the number NPA produced. This can best be seen by the difference in their estimates for governmental units with 1500 or more employees where they estimate 105 jobs were created for every 100 PSE slots, and governments with 750 to 1499 employees where they find a net loss of 20 jobs for each 100 PSE slots.

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[21] This can be seen by again following the Wiseman notation:

$$\alpha = \frac{EH - EC - d^* + \pi\beta EC}{PH}$$

where all variables are defined as before but π is the job creation percentage for the control sites. The higher π, the greater will be the job creation rate calculated for the High Impact Demonstrations governments.

Unfortunately, Wiseman's recalculated job creation percentage of 69 percent is no more reliable. His estimate attacks only one of the problems with the NPA study, and lacking new data, he can only offer a hypothesis based on assumptions about what occurred. It is our conclusion that we must agree with the statement of the NPA report, which says: "Finally, the major problem throughout the study was the lack of appropriate control groups. There were no economic data (other than USES unemployment rates) for areas comparable to the Demonstration sites. Also, there was no control group for the participants. These omissions make suspect most of the results presented in this report."22/

Time-Series Studies

George E. Johnson and James D. Tomola have written a series of papers attempting to estimate the job creation and fiscal substitution rates (13), (14), and (15). Their studies take an entirely different approach from that of the NPA, relying on aggregate national data on state and local government employment over time. The basic approach was to estimate the local and state government employment for each calendar quarter as a function of a variety of factors believed to affect employment and of the number of PSE slots. For years prior to 1971, the value of the latter variable would be zero.

As the studies progressed and the authors reacted to comments, the models became more sophisticated and the studies improved. Therefore, we will review the papers chronologically, referring to them as J-T 1974, J-T 1975, and J-T 1977, spending only a limited amount of time discussing the first two.

J-T 1974. The first model of Johnson and Tomola had as the dependent variable non-PSE state and local government noneducational employment for each quarter from the first quarter of 1956 through the second

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22/ NPA (26), p. 9.

quarter of 1973. This was regressed on such employment in the previous quarter, per capita disposable income for the quarter one year earlier to show the growth of revenue-generating possibilities for government, number of quarters since the first quarter of 1956 to see if there was a time trend in the growth of government employment not related to growth in income, the quarter of the year to account for seasonal variations in state and local government employment, and total number of PSE placements (including educational and noneducational assignments) per capital.

The job creation effects on state and local noneducational employment based on this model are shown in column (2) of Table 1.23/

Table 1

J-T 1974 and J-T 1975 Estimates of Job Creation Over Time of 100 Noneducational PSE Slots

Quarter After PSE Slot Is Funded (1)	J-T 1974 Estimate of Growth in Noneducational Employment per 100 PSE Slots (2)	J-T 1975 Estimate of Growth in Noneducational Employment per 100 PSE Slots (3)
1	78	77
2	65	63
3	56	56
4	51	51
5	48	49
6	46	47
7	45	46
8	44	46

SOURCES: J-T 1974 (13), p. 12; and J-T 1975 (14), pp. 9-10.

23/ Johnson and Tomola also calculated growth in noneducational employment per 100 noneducational PSE slots. They made an arithmetic error in their computation in the 1974 paper, which was corrected in the 1975 version. Assuming that the job creation effects of PSE funding are the same in educational and noneducational employment, Johnson and Tomola reasoned that since only 81 of 100 PSE slots were in noneducational positions, the first substitution effect should be multiplied by 1.23 (i.e., 100/81).

J-T 1975. The next version of the model (14) relied on the same 1956 to 1973 data but changed the definition of per capita income. Whereas in J-T 1974, disposable income per capita was used, in the 1975 version, real personal income less federal taxes plus state and local indirect business taxes per capita was used. The latter probably more accurately represents the revenue-raising capacity of the governments.

The new estimates of job creation appear in column (3) of Table 1. As can be seen by comparing columns (2) and (3), growth in noneducational employment per 100 PSE slots changed little.24/

J-T 1977. The Third, the published version of Johnson and Tomola's paper (15), incorporated a number of major changes from the earlier versions. Many of these changes were in response to criticism by Wiseman (27).

The authors decided to drop the distinction between job creation in the noneducational and educational sectors. In making the distinction, Johnson and Tomola had implicitly assumed that the job creation effects were the same in both sectors. While estimation of the magnitude of the two job creation effects is impossible without separate breakdowns of PSE slots, some difference is likely to exist. The new model obviates this problem by examining the effects of all PSE slots on all state and local government employment.

Johnson and Tomola also added two variables to the model. The real employee compensation of state and local government employees was added on the basis that increasing wage rates will cause declining growth in employment, and there have been sizable recent increases in government employee wages. The proportion of the population ages 5 to 19 was added, since this will positively affect the number of public employees in the educational sector, which is now included.

24/ Also, the technique to calculate the number of noneducational PSE jobs created by an increase of one noneducational PSE slot was corrected. This correction provided the major difference in the estimates of the two papers.

The authors also once again modified the per capita income measure; in this version of the model it is real per capita personal income less federal taxes plus state and local government indirect business taxes plus federal grants to state and local governments. The addition of this last item takes account of another source of revenue available to the governments for expenditures on employment.

The earlier two versions had constrained the job creation effect to decline each quarter as a fixed percentage of the number of jobs created. This occurred because of the inclusion of the previous quarter's employment level in the model. In J-T 1977, this variable was not included, and an econometric technique known as the Almon lag procedure was used instead, which allowed the estimated time path of job creation to vary more freely. Finally, the data base was changed. The period under study became from the first quarter of 1966 to the fourth quarter of 1975.

J-T 1977 - Findings. The job creation rate based on the new model differes slightly depending on whether the PSE program is assumed to be funded from increased taxes or other sources. The estimates appear in Table 2.

Table 2

J-T 1977 Estimates of Job Creation Over Time of 100 PSE Slots

Quarter After PSE Slot Is Funded	Growth in State and Local Government Employment Per 100 PSE Slots	
	PSE Is Tax Financed	PSF Is Not Tax Financed
1	102	104
2	87	91
3	64	69
4	37	42
5	13	18
6	-2	3

SOURCE: J-T 1977 (15), p. 14.

The major difference between these figures and those of the earlier versions is that a larger impact of PSE is posited for the first three quarters, but then it declines much more rapidly and basically disappers six quarters after the slots are funded. This argues that within a year and one-half of receiving the PSE funds, the local and state governments have all of the PSE employees performing functions that would be provided by public employees in the absence of PSE or have laid off or not hired a corresponding number of regular employees.

It is important to note, as Johnson and Tomola do, that these estimates are not very precise statistically. In particular, although the paper suggests that net job creation after six quarters is essentially zero per 100 PSE slots funded, one can only be 95 percent sure that this figure is between 110 net jobs created and 114 net jobs lost per 100 PSE slots funded; the specific estimate should be interpreted as an average from a broad range of possible values that are consistent with the data.

J-T 1977 - Discussion. While the published version of the Johnson and Tomola paper is much improved over the earlier studies, there are still several major problems that may influence their findings. Included are the following:

(1) A problem arises from the particular way the authors used the Almon lag procedure. While this allows the job creation effect to decline at different rates from one quarter to the next, as it is specified the declining relationship of PSE to employment must work itself out over six quarters and must decrease less rapidly in the later quarters. A less restrictive method of estimating effects of PSE over time would have produced different findings.

(2) The model as constructed specifies fixed relationships among the variables. There is no allowance made for the relationships between employment and per capita income, public employee wage rates, and number of

children of school age to change over the ten-year period. The model also constrains the growth in employment due to other factors to be a constant linear relationship. In recent years, however, we have heard increasingly of a "taxpayer's revolt," which seems to be particularly manifested at lower levels of government, such as school districts, where the taxpayers have refused to vote for tax increases. This means that at the same time that the PSE program was expanding, the relationship between per capita income and government employment has been shifting. Part of the declining job creation effect could be the spurious result of the coincidence of the growth of PSE and a decline in the proportion of real income assigned to state and local employment.

(3) In a similar vein, the model requires that the relationship between an increase in PSE slots--as occurred in late 1971 and the first half of 1972, the summer of 1973, and throughout 1975--have the same positive job creation impact as the decline in PSE during the other periods has a negative job creation effect. It is possible, however, that in reality the changes resulting from adding or subtracting PSE slots do not move in identical fashion. For instance, it is much easier, politically, to add government workers than to fire them and to add government services than to remove them. Thus, while the Johnson and Tomola finding that adding 100 PSE slots causes first quarter growth in overall state and local government employment of approximately the same number of jobs seems reasonable, their model's estimate that a loss of 100 slots should result in a reduction in local and state government employment by 102 to 104 jobs in the first quarter and almost none six quarters later seems incorrect. It is more likely that the governments involved will not reduce employment drastically as soon as federal funds are removed and then slowly increase "regular" employment, but rather will

gradually reduce their labor forces through attrition.25/ The Johnson and Tomola constraint equating the patterns of net job creation and net job loss may bias their estimates.

(4) Wiseman (27) raises a question about the data Johnson and Tomola used for the number of PSE slots. During the summer months of 1972 and 1973, a total of approximately 317,000 persons, primarily youth, were hired as summer workers. Average PSE employment jumped by over 100,000 in the summer of 1973. 26/ In previous years these summer hires were funded using other federal program moneys. In subsequent years, too, summer youth employment positions were not included as PSE slots. Wiseman argues that inclusion of these slots, specifically designed to cause fiscal substitution, causes a downward bias in the Johnson and Tomola estimates of job creation. 27/

(5) The factors they have identified and included in their model as influencing state and local government employment are limited. Omitted

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25/ State and local governments will also attempt to prevent the loss of federal funds by lobbying in Congress for program continuation and by stretching the funds they have received over a longer period. The administrative and political problems associated with phasing out a PSE program, while outside the scope of this paper, have great importance for the countercyclical implications of such programs.

26/ Manpower Report of the President, 1975 (22), p. 45.

27/ Another argument against the inclusion of the summer youth slots is that they had a known, short-term duration of only several months. Consequently, their effect on other types of government employment was likely to be small.

variables that are correlated with PSE slots may be the cause of the declining job creation effects they observe. For instance, higher levels of unemployment would strongly increase the demand for nonemployment-related government expenditures, such as for public assistance, and at the same time reduce the tax revenues available to state and local governments. Both of these factors would tend toward reduced public employment. Further, there is likely to be a delay between the rise in unemployment and the increased demand for services and reduction in revenues, leading to a pattern not much different than than observed for the decay in the PSE job creation effect.

(6) Another data problem that causes an upward bias in the Johnson and Tomola estimate of the fiscal substitution rate and a downward bias in their job creation estimate, is that some CETA public service slots are subcontracted to nonprofit, nongovernmental agencies. Such slots would not be expected to have an effect on government employment unless these agencies performed services in lieu of government units, which is probably not the case. Yet, Johnson and Tomola subtract these slots from total state and local government employment to calculate fiscal substitution.[28]

In our opinion, the 1977 version of the Johnson and Tomola paper is a well thought out, carefully conducted study. Its results, however, seem to rest on a variety of assumptions that make questionable the specification of their model. If the specification is changed, we believe the results will also change. In the next section we will demonstrate this empirically.

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[28] We are indebted to the PSE monitoring study of The Brookings Institution for calling this point to our attention.

Long-Run Job Creation Studies

Several studies originally designed for other purposes have been used by Alan Fechter (17) and (8) to derive estimates of the long-run job creation effect of public service employment programs. A review of these studies and their use by Fechter follows.

Orley C. Ashenfelter and Ronald G. Ehrenberg (2) studied the determinants of state and local government employment. Constructing a carefully specified model of the determinants of the demand for such workers, they estimated the relationships between demand for government workers by the government function they perform, the wage rate of government employees, and the level of real income. Using annual data for the 50 states for the years 1958-63 and 1965-69. Ashenfelter and Ehrenberg find that a one-dollar increase in real income increases state and local government employment expenditures on noneducational services by 1.3 cents and on educational services by 4.4 cents--a total of 5.7 cents. The authors go on to state, "Since this result is substantially lower than those produced previously by both ourselves and others, it probably ought not to be taken at face value."29/

Edward M. Gramlich and Harvey Galper (11) in a paper prepared for The Brookings Institution used quarterly aggregate data for 1954 through 1972 and budgetary data for 1962 through 1970 for ten large cities to estimate the effects of different types of federal grants on spending by state and local governments.30/ They include in their models a number of factors other than grants that may influence the level of government expenditures. They estimate that lump sum transfers (such as general revenue sharing) of one dollar will increase state and local government spending by 25 to 43 cents after

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29/ Ashenfelter and Ehrenberg (2), p. 74, n. 16.

30/ Gramlich and Galper (11), pp. 43-44.

about five years. They find that one dollar of a closed-end categorical grant will increase state and local spending by 65 to 90 cents within a year. Finally, open-end matching grants cause an 80-cent increase in local and state expenditures for each dollar of federal grant.

Findings. Fechter uses these studies and several others by the same authors to construct an estimate of the long-run net job creation effects of PSE. He uses the Gramlich and Galper (11) figures for lump sum transfer programs and concludes that fiscal substitution will cause state and local governments to spend 57 to 75 cents less per dollar received of PSE funds. He uses the estimates of Ashenfelter and Ehrenberg (2), Ashenfelter (1), Ehrenberg (7), and Gramlich (10) to argue that of the increased spending of 25 to 43 cents, only 10 to 40 cents will be spent on wages. He concludes by saying that these estimates of job creation would probably be higher in the short run.

Discussion. Fechter's estimates are based on several assumptions that seriously influence his conclusions. Foremost among these is the assumption that the PSE programs are untied lump sum transfers, when in fact they are designed to be categorical and restricted--they must be spent almost entirely for labor, the jobs must be filled with unemployed or underemployed individuals, and there are maintenance-of-effort clauses. To the extent that these conditions have been enforced, PSE programs fit better into Gramlich and Galper's closed-end categorical grant classification, which had considerably lower expenditure displacement effects, that is, only 10 to 35 cents per grant dollar. Presumably, the estimates of the amount of each PSE grant dollar spent on wages would also be higher than Fechter's estimates.

Moreover, because Fechter bases his estimates on the econometric work of other researchers, his conclusions about the extent of fiscal substitution necessarily rest on the validity of those econometric studies. This implies that all the possible problems of omitted variables and misspecification and data errors, noted at the start of this section, may underlie Fechter's work because they may be present in the studies on which his work is based. Even more important, though, none of the studies used explicitly deals with PSE. Instead, they examine the long-run behavior of spending resulting from the receipt of various types of grants or the long-run employment effects of changes in wages and community income. For Fechter's estimates to be correct, one must further assume that the effects of PSE are realized quickly in order for these models to be relevant. The PSE programs in reality have been short term in nature and constantly changing, leading us to conclude that Fechter's work represents an educated guess about fiscal substitution, based on a set of restrictive assumptions and an idealized version of a PSE program.

Summary and Conclusions

The estimates of the job creation and fiscal substitution rates provides by NPA, Johnson and Tomola, and Fechter each have been shown to involve serious limitations. They are based on models severely limited in the numbers of factors other than PSE that are used to account for changes in state and local government employment. They have problems specifying the relationships between the variables in their models and the growth of employment, and by specifying certain relationships, they constrain their results. Finally, they are limited by the data they have to work with.

Under these circumstances the studies give a false sense of precision. They each give an exact estimate of the number of jobs created per PSE slot, but this estimate, as we have seen, is subject to all of the assumptions and errors that went into it. As a result, the range of values into which the true job creation effect is likely to fall is extremely large.31/ At this point, we can say little with confidence other than that there is some job creation effect from PSE.

31/ The quantitative effects of changing the assumptions of one of the studies will be seen in the next section.

IV. CHANGING THE ASSUMPTIONS OF THE FISCAL SUBSTITUTION MODELS

In the preceding section we noted that Wiseman (27), by making a minor change in the NPA calculation method, caused their estimate of fiscal subsitution to fall from 46 percent to 31 percent. In this section we present a set of adjustments to the results of the Johnson and Tomola 1977 study (J-T 1977), using their time-series data for 1966-75.32/ These adjustments correspondent to our first four criticisms of their study in the last section. (The last two points could not be tested because of a lack of data.)

Changing the Lag Relationship Between PSE and the Level of Employment

Johnson and Tomola used an Almon lag procedure to specify how "regular" state and local government employment changed for six quarters after the PSE slots were introduced. This procedure, as used by them, requires that any change in the relationship between the variables be concluded by the end of the six quarters and grow smaller in the later quarters. We tried two alternative models.33/

Our first alternative, Model I, used the same lagged relationship between PSE and employment as Johnson and Tomola had used in their first two papers, (13) and (14). It required that the relationship change at a fixed rate but not be constrained to end after a fixed number of quarters. This model led to considerably lower estimates of job creation for the first three quarters than were presented in Johnson and Tomola (15), as can be seen in the second and third columns of Table 3. Model I did not fit the

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32/ We are deeply indebted to George Johnson and James Tomola for making these data available to us.

33/ These and the other models we used are specified in Appendix B, pages 145-146.

data as well as the J-T 1977 model did. This was not necessary due to the change in the lag relationship for PSE, however, since the relationship between employment and per capita incomes and proportion of the population of school age were also changed to linear relationships.

The second alternative, Model II, removed all constraints on the lag relationship and let estimated effects of each quarter after the funding of the PSE slots take on any value. Although the Model did not explain employment significantly better than did J-T 1977, the results are extraordinary. When the estimates of net job creation are no longer restricted to a smooth path, they bounce crazily in the fourth quarter, as can be seen in the fourth column of Table 3. Further, the estimate after six quarters implies a reduction of 242 state and local government non-PSE jobs when 100 PSE slots are funded. These results suggest that the particular lag relationship used by Johnson and Tomola hides a very unstable basic relationship.

Nonlinear and Changing Relationships Between the Variables

Two tests were made of our criticism that the Johnson and Tomola model was too rigid over time. The first test split the period under study into two segments: 1966-70, when there was no PSE; and 1971-75, when it existed. We then asked the question: Does the Johnson and Tomola model fit the two segments equally well? by applying their model to the data for the two periods. We could not reject the hypothesis that the same model characterizes both parts of the sample period.34/

We also criticized specifically the linear relationship between state and local government employment and community income that was specified by Johnson and Tomola. This criticism is based on the notion of a "taxpayers' revolt" and the observation that the public's

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34/ The model did perform differently for the two subperiods at P = .10 but the difference was not significant at P = .05.

demand for government services is unlikely to vary in a strictly proportionate manner with increases in income. To test this criticism, a nonlinear term for community income was added to the Johnson and Tomola model. This Model III predicts employment better than the model in J-T 1977.35/ Further, as the results in column (5) of Table 3 show, it implies that the eventual impact on state and local jobs created is more substantial than that predicted by Johnson and Tomola - roughly 24 per 100 PSE slots funded.36/

Changing the Equality of Gains and Losses of PSE Slots

The Johnson and Tomola model constrained any reduction in non-PSE state and local government employment when PSE slots increased to equal the increase in such employment when funding for PSE slots was withdrawn. We removed this constraint. Using exactly the same model as Johnson and Tomola, we added another set of Almon lag variables for the number of PSE slots for the period from the fourth quarter of 1972 through the second quarter of 1974, and the third quarter of 1975, when the number of regular PSE slots was declining. The results of this Model IV are shown in columns (6) and (7) of Table 3. They suggest that when the number of PSE slots is expanding, there is almost no fiscal substitution. On the other hand, when PSE slots are removed, the state and local governments add many more regular employees than the number of slots lost. After six quarters, 349 regular employees are hired for each 100 PSE slots given up, according to this estimate.

35/ The nonlinear model was significantly better at P = .05.

36/ The coefficients showing a curvilinear relationship between government employment and per capita income indicated that as income rose it led to a decreased rate of growth in state and local government employment. Since per capita income increased over the 1966-75 period studied, this tends to confirm the "taxpayer's revolt" hypothesis.

These results must be treated as aberrations for policy purposes. Yet, based on a purely statistical evaluation, inclusion of the additional variables led to a significant improvement in the results.[37/] This demonstrates that reasonableness and "statistical explanation" are not the same.

Omitting the Summer Youth PSE Slots

A final adjustment takes account of Wiseman's objection that Johnson and Tomola used PSE data for the summer of 1972 and 1973 that mistakenly contained summer youth jobs that were explicitly shifted into PSE slots from other funding sources. This would bias downward the estimated net job creation rate. Model V provides a re-estimate of the J-T 1977 model using the corrected data.[38/] As expected, the estimated net job creation per 100 PSE slots is higher when this correction is made, but the changes are not large, as can be seen by comparing columns (8) and (2) of Table 3.

Conclusion

The adjustments we made in this section were designed to show how sensitive the Johnson and Tomola results were to the particular model they used. We were not trying to conduct an exhaustive search for the "perfect model." Two of the criticisms we made of the Johnson and Tomola study (15) could not be demonstrated. As our results make clear, however, the Johnson and Tomola model of fiscal substitution is highly sensitive to even small changes in its specification. We found a range of estimates of average net job creation of between 51 and 142 jobs per 100 PSE slots one quarter after PSE funding and between -142 and 44 jobs five quarters later. This broad range

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[37/] The F-test was significant at $P < .01$.

[38/] We are indebted to the U.S. Department of Labor for providing the figures on summer youth PSE jobs.

of estimates is not surprising for two reasons. (1) The Johnson and Tomola estimates of fiscal substitution and of net job creation are imprecise, allowing both substantial job creation and fiscal substitution effects within normally accepted confidence intervals. (2) The very high correlations among all the variables (since most are growing steadily over time) mean that adding new variables can produce large changes in the estimated effects of variables previously included in the model.

The re-estimates in this section are in no sense designed to belittle the work of Johnson and Tomola. Rather, by showing how sensitive the estimates of the job creation effects of PSE are to minor changes in the specification of the model, they illustrate the problems inherent in using time-series data in which most of the variables are growing together over time for reasons quite independent of the behavior that the researcher is trying to isolate. In the next section we will propose an alternative analytic procedure that will alleviate many of these problems.

V. IMPROVING ECONOMETRIC ANALYSES OF THE NET JOB CREATION EFFECTS OF PSE

In the preceding sections of this paper, we have been primarily critical of the work of others. Here we wish to be more constructive and suggest what appear to us to be the most fruitful paths for econometric analyses to take. Before we do this, however, we believe it useful to discuss the relative merits of econometric and other approaches to learning the job creation impact of PSE.

The Proper Role of Econometric Analyses

The major attraction to date of the econometric studies of PSE that have been conducted is that they have provided Congress, the Administration, and others interested in manpower policy with a specific number of government jobs created per PSE slots funded. When the implications of the use of released funds were ignored, this figure could easily be translated into a cost per job figure and compared to alternative job creation proposals.[39] Other techniques for assessing job creation do not offer this apparent precision.

We have seen that the precision of the econometric analyses is illusory. The estimates of job creation and fiscal substitution rates have large confidence bounds, so that the actual rates can lie within a very broad range of values. The estimates are based on the assumptions and model specifications of their authors, and changes in these assumptions or models will drastically affect the magnitude of the job creation and fiscal substitution rates. Finally, for the most part, the studies have sought to answer the question for which data were available--What is the effect of PSE on grantee government employment?--instead of the more important but also much more difficult question--What is the effect of PSE on aggregate and community employment? However, before rejecting econometric studies irrevocably, it is useful to observe the alternative methods for answering these questions.

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[39] For a more sophisticated application of the procedure, see Congressional Budget Office (4).

Surveys. One alternative procedure for estimating job creation and fiscal substitution effects is to survey elected officials, budget officers, and others involved in state and local government fiscal policies to gain their perceptions of how the federal PSE moneys have been spent and the extent of fiscal substitution. Such a survey has been employed in the attempt to measure the impact of the general revenue sharing program.40/ The problems with this approach are many.

First to answer the question of whether or not there is fiscal substitution, we are in effect asking the respondents to tell us what would have happened with regard to employment were there no PSE funding and to compare this to what happened with the funding. This is the same question that the econometric studies try to answer. At best the respondent would use the same set of information as that used by the econometric studies, that is, comparisons with past situations, projections of trends, and taking account of other factors affecting the grantee government's employment. In practice, much less thought, data, and effort will probably go into the response. Further, the respondent usually will not have the data to make comparisons with other government.41/ Thus, the ability of the respondents to accurately estimate fiscal substitution is probably more limited than are the econometric studies.

There are also questions about the incentives for the respondents to answer truthfully. There may be penalties attached to correctly reporting substitution when "maintenance-of-effort" clauses make such action illegal. It seems foolish to expect

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40/ See Juster (18).

41/ In terms of experimental design, the respondents will use a before and after design rather than a comparison group evaluation. For the problems with each type of design see Campbell and Stanley (3).

state and local government officials to admit voluntarily that they used the PSE funds to hire laid-off workers who would have been hired anyway, when their governments then might be required to repay the funds to the federal government. In addition, there may be political penalties involved in admitting to certain uses of the funds. Elected officials may suffer politically if unemployed voters find that funds earmarked for local jobs ended up in bondholders' pockets or were used to purchase a new fire engine.

Next, the fungibility of PSE moneys is extreme. It is truly impossible to identify the funds that have been released by PSE and where they have gone. The funds may travel through several accounts releasing other funds in each. In most cases of fiscal substitution, it must be the observers' instinctive judgments about where the money ended up rather than hard evidence that he will report.

Finally, there are the problems of most surveys. Survey question format and order will influence answers. Respondents may interpret questions differently, giving different answers although their situations are similar. Some respondents will not answer some questions and in extreme cases will refuse to participate in the survey completely. All of these factors may introduce biases into the results.

Professional Observers. A modification of the survey technique is to place trained observers in the grantee communities to monitor the implementation of the PSE programs. Part of the duties of these individuals will be to survey the responsible administrative, fiscal, and legislative officials to gain their perceptions, just as was done in the survey. They hope, however, to counter some of the problems of the survey technique by examining other sources of data--official reports, budgets, personnel records, and manpower allocations--in order to judge the accuracy and veracity of the responses by community officials. They also bring their own knowledge and training to bear on the questions of job creation and fiscal substitution. The stationing of professional observers is part of the NCMP approach to measure the net employment effects of PSE and has also been employed for review of the Emergency Employment Act 42/ and general revenue sharing.43/

While alleviating some of the problems of the survey approach, professional observers still encounter many of the same troubles. They are constrained in part by what they are told and the data made available to them. They typically must rely on the good will and honesty of their respondents to secure information, although they are better able to judge the quality of the data provided than would be true for a survey. If government officials are violating maintenance-of-effort provisions, they may very well try to hide this and be unresponsive to the requests of the observers. The observers also must face the same fungibility problems as do government officials in trying to determine where released funds may have ended up.

In addition, there are problems in making comparisons across governments with the professional observer approach. Data may not be comparable among the sites. More important, the observer approach is very costly and very time consuming, and the number of sites that can be studied is usually quite limited. Finally, the estimates made by the professional observers are still only value judgments of what occurred in the particular locations they studied. It is very difficult to aggregate what amounts to a limited number of individual case studies, no matter how well carried out, in order to arrive at a national picture.

Conclusion. Thus, while econometric studies involve many problems, so do the alternative methods to estimate the net job creation and fiscal substitution effect. Many would argue that these alternative estimates would be even less accurate than those of the econometric studies. To engage in an argument of the relative merits of the alternative approaches, however, seems to us to be fruitless. Instead, we would suggest that all three be used as complements.

42/ Levitan and Taggart (20).

43/ Nathan *et al.* (23) and (24).

Data gathered by professional observers on the process of PSE implementation should enable the surveyors to ask more appropriate questions, to identify better the proper respondents, and to provide a guide as to the existence of response and unresponse biases. The data describing the PSE process should also be valuable in helping the econometricians to more effectively model what happens in state and local governments and to identify the crucial variables that need to be included in the model.

Survey results may show trends and patterns across governmental units that would allow the better selection of sites for stationing of professional observers. They also provide a standard against which the representativeness of the observer site results may be judged. The survey data may also be used to check on the data used by the econometric studies or may become part of the data base for such studies.

Finally, the econometric studies can test the validity of the survey and professional observer technique results. They can provide national estimates and separate estimates for different size governments, types of governmental units, and regions. They can continually re-evaluate the extent of fiscal substitution and examine its changing nature as time passes or as economic conditions change. Lastly, the econometric studies can do all of this at a relatively low cost if the necessary data base exists.

How to Improve Econometric Studies

Suggestions to improve econometric studies of the net job creation effect of PSE can be made at two levels. The first level is to suggest marginal improvements in existing studies. In our discussion and recalculations of Sections II and IV we have already proposed some changes. Such "tinkering," while having its place, is not justified here. Instead, a more basic discussion of the type of approach needed to arrive at more useful estimates of the fiscal substitution and job creation rates is warranted.

Improving Estimates of the Fiscal Substitution Rate. As discussed in Section III, there have been two types of studies attempting to estimate the extent of fiscal substitution of PSE. 44/ The time-series studies have used data on the entire economy over a period of years, while the cross-sectional study has considered data on individual units at a point in time along with some background (longitudinal) information on those units. These appear to represent the possible approaches open to the researcher interested in this problem. In evaluating them we need to consider how successful each is likely to be in controlling for factors other than PSE that affect state and local government employment.

Even a time-series study using aggregate data that accords with best-practice econometric technique is not likely to provide the policy analyst with an estimate of substitution based upon a credible handling of the "what if" problem--determining what would occur in the absence of PSE, so that a comparison of employment with and without it can be made. This is true for at least four partly related reasons. Most important of these, in any time-series analysis there are likely to be structural shifts in the underlying relationships. These shifts are not likely to be captured fully by the measures used to take account of the factors other than the PSE program that determine state and local employment. If these shifts are contemporaneous with the introduction of the PSE program, their effects will be attributed by the analyst to the PSE program rather than to the factors causing the shifts, as they should be. If the unaccounted-for structural shift increases state and local employment demand, the analyst will underestimate the fiscal substitution effect of PSE. If the shift decreases employment demand, the bias will be in the opposite direction.

A second, and related issue, is that of nonlinear relationships between the variables whose influence

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44/ We include the macroeconomic stimulations as a variation of the time-series studies, since they also use aggregate data on historical relationships to calculate the parameters of the model.

needs to be controlled and state and local employment.[45] Microeconomic theory indicates no reason why the same percentage response of government employment to changes in real incomes should persist at all real income levels. Accordingly, any study that ignores this problem by assuming a constant (absolute or percentage) response every time runs the risk of attributing to the PSE program what in fact are changes in the response to the control variables as the nation becomes better off or as technology changes. Yet, there are considerable problems involved in specifying the correct shape of the relationship, and these problems are more acute in time-series than in cross-sectional analyses.

Third, to the extent that the time-series studies use aggregate national data, they lose substantial detail in the aggregation process. This becomes a problem because information on the fiscal substitution rates cannot be provided by type and size of government, region, and level of community unemployment. Also, only the average stock of PSE jobs is examined, and no differentiation is made between the fiscal substitution effects in areas with high and low concentrations of PSE jobs or between areas that are gaining slots and other communities that are losing them.

Finally, as any observer of the economy over the last five years is aware, economists have not been notably successful in predicting its course. Their failure stems from their inability to construct models of macroeconomic behavior that have as secure a basis in theory and amenability to repeated attempts at refutation as do models of microeconomic (household and firm) behavior. A time-series study using aggregate data requires the analyst to understand and to specify empirically the broad factors that shift patterns of aggregate spending. Given the failure of macroeconomic theory and prediction, it is not surprising that it is difficult to control the same factors in time-series studies of fiscal substitution.

All of these problems are present in any conceivable time-series study of the fiscal substitution effect. They are unlikely to be resolved by greater cleverness on the part of the analyst. Rather, they stem from the current state of macroeconomic theory, its empirical testing, and limitations associated with using aggregate data. The construction of aggregate time-series models of econometric relationships that properly control for factors other than PSE that affect state and local employment appears to be too difficult. This difficulty means that the policy analyst must rely on a well-done cross-sectional study to make inferences about the extent of fiscal substitution.

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[45] We noted this problem in our discussion of Johnson and Tomola (15).

Cross-sectional analysis has the virtue that the units being observed are small enough so that they approximate in size and decision-making method those idealized units that are the major factors in the microeconomic theory of behavior. Since microeconomic theory has been successful in predicting some behavior of individual units, it follows that this kind of empirical analysis--if confined to small units--has promise.46/ Further, by focusing on behavior at a point in time, a well-constructed cross-sectional study can obviate the need to account for changes (other than PSE) in the overall economy that might be affecting the behavior of state and local governments.

The choice of some of the variables to take into account and the proper format for the ideal cross-sectional study are clear. The basic theory of demand of labor relates employment demand in a specific function to real incomes in a community, the wage rates of employees in the function, and the wages in other functions. Since responses to these variables by government employment will likely vary with the state of the labor market, and tax effort and tax base may also affect the relationship, these, too, should be added in a multiple regression framework. With data on large numbers of individual jurisdictions, and each observation reflecting employment in a particular governmental function, the multiple regression can then isolate the impact of PSE slots by avoiding most of the problems with the cross-sectional study of

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46/ Granted, microeconomic theory and models are far from infallible and can be challenged. It is our opinion, however, that they offer more hope of accurately measuring the job creation effects of PSE than do macroeconomic models.

fiscal substitution conducted by NPA (26). Most important, the multiple regression technique avoids the problem of trying to find a control group, for the technique makes each observation function in some sense as a control for the others.

In addition to the control variables, the analysis should also have a time dimension to indicate whether the magnitude of the fiscal substitution rate grows as time passes after the PSE slots are created. If the PSE slots are created at approximately the same time, comparisons of repeated cross-sectional analyses should indicate any changes in the rate of fiscal substitution. If the slots are regularly reallocated or if new legislation continually changes the number of slots in various communities, then variables ought to be included in the model to show such things as the average "age" of the communities' slots and whether the stock of PSE slots is growing or contracting.

In conclusion, we believe that the cross-sectional approach permits substantially greater information to be gathered about the fiscal substitution effect and that this information will be more accurate and reliable than can be estimated using aggregate time-series data. We should note, however, that the data requirements for the cross-sectional analysis also will be substantially increased and that this type of study will be more costly.

Improving Estimates of the Job Creation Rate. In the second section of this paper, we argued that the question that should be asked of PSE is not "How many state and local government jobs were created by it?" but rather "What was the impact of the PSE program on the aggregate and community levels of employment?" Only the Canadian study of LIP (5) attacked the latter question and, as we discussed, was not particularly successful. It is much easier to limit the scope of the analyses to state and local government employment, which can be readily measured. Some technique, however, must be developed to identify the broader employment impact if PSE is to be evaluated as a countercyclical employment program.

Unfortunately, we are not able to offer such a technique. Rather we can only propose a step toward it.

It seems impossible to identify directly the impact of PSE on the levels of aggregate or community employment. The PSE program is small relative to total government funding, and its maximum employment effects are unlikely to alter the national unemployment rate by more than two percentage points. Therefore, its impact is likely to be swamped by the other monetary and fiscal policies that are designed to increase employment.47/ What can be done, however, is to determine the impact of PSE on various aspects of state and local government behavior. Just as we argued in the preceding discussion that cross-sectional analysis could be used to measure the influence of PSE on state and local government employment, we feel that the same techniques can be applied to the levels of nonemployment expenditures, debt repayment, surpluses, transfer payments, and tax rates for state and local governments.

Public finance theory provides the basis for constructing models of the factors that influence these variables. To these factors we would add variables to represent PSE and then use multiple regression techniques to estimate the magnitude of the impact of PSE on each. These estimates, together with an expansion of the theoretical considerations presented in Section II of this paper, should allow policy makers to judge the relative efficacy of PSE as opposed to federal tax cuts and other antirecessionary policies. Thus, although this proposal does not measure the overall job creation effect of PSE, it should permit policy decisions based on this criterion rather than the more limited definition that includes only state and local government employment.

47/ It is also probable that the countercyclical expansion and contraction of PSE will occur simultaneously with the other programs in such a way that it will be impossible to distinguish the individual impacts of programs in the package of stabilizers.

Conclusion

In this paper, we found that econometric studies have not yet produced a satisfactory answer to the narrow question of the degree to which PSE programs induce fiscal substitution; and such studies have barely touched the broader questions--"What use is made of the funds freed by PSE?" and "What are the aggregate and community employment effects these funds produce?" In fact, it is unlikely analysis can provide a single definitive answer to all of these questions. It is inherently limited both by the need to use a specific data set characterizing a particular program, time, and place and by the fact that it functions best when it contains a well-specified model based on fairly simple sets of behavior and aimed at answering a narrow policy question. Consequently, the literature to this point has served mainly to stimulate policy discussion and to provide the impetus for a deeper theoretical and institutional analysis of the effects of PSE. This has led to the conclusion that fiscal substitution will be greater (1) the greater the time state and local government have to adjust to the funding of PSE slots, and (2) the greater their discretion over the use of the PSE funds.

While one econometric study simply cannot provide answers to all, or even a large fraction, of the policy issues surrounding the PSE program, multiple studies of the type we have proposed here should narrow the range and increase the validity of the policy implications of econometric analysis to the point where the effectiveness of PSE can truly be evaluated. Therefore, we strongly urge continued use and support of this technique. Econometric analysis can be useful in estimating the narrow fiscal substitution effect and the broader issues of use of funds and aggregate effects, if it is properly designed and used in conjunction with other evaluative techniques.

APPENDIX A - MACROECONOMIC SIMULATION STUDIES

Another approach that could be applied to measure the net job creation impact of PSE is to construct a model of the economy and then simulate the employment level under varying conditions, including having a PSE program and not having it. Such an estimate was undertaken for the Economic Council of Canada by P. A. Cook, C. D. Hodgins, G. V. Jump, and C. J. Szabo (5), using the University of Toronto Quarterly Econometric Forecasting Model. While the Canadian economy and PSE program differ in size and structure from ours, the technique used makes the study relevant for review here.

Cook *et al*. examined the employment and unemployment effects of several Canadian manpower programs, including the Local Initiative Program (LIP), a form of PSE that allowed governments, community groups, and individuals to sponsor projects. This program, which funded local short-term projects, primarily in the winters, was designed to provide both income for unemployed persons and improvements to the community. Wages had to be at least 85 percent of total project costs, and project size was limited to $500,000 in 1971-72, $200,000 in 1972-73, and $75,000 in 1973-74.1/ The program provided the equivalent of approximately 31,000, 32,000, and 12,000 full-year jobs in 1971-72, 1972-73, and 1973-74, respectively, or a total of 75,000 jobs over the three years at an average cost of $6,133 per job. 2/

The Canadian simulation compared the absolute levels of the labor force participation and employment generated by the model under three alternatives: (1) the situation with LIP, (2) a situation without LIP but with a government

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1/ For more information about LIP, see Joint Economic Committee (16).

2/ These figures are based on information in Cook *et al*. (5), pp. 44-45.

expenditure on goods and services equal to what was spent for LIP, and (3) a situation without LIP but with a tax cut equal in amount to what was spent for LIP.

Findings. The authors found that during 1972 and 1973, LIP brought 21,000 and 25,000 more people into the labor force than would a government expenditure of an equal amount on goods and services. Employment rose by 26,000 and 27,000 in the two years, respectively. The corresponding figures due to LIP when compared with a tax cut were labor force increases of 26,000 and 25,000 and employment increases of 31,000 and 34,000.

If these figures are compared with the approximately 31,000 and 32,000 annual equivalent jobs created by LIP, the program is seen to have a very large job creation effect. It is not possible, however, to calculate a job creation rate comparable to those in the studies discussed above. In those studies, PSE was compared with an alternative of having no expenditure change or tax cut with the funds spent on PSE. Here these alternatives were presented and Cook et al. did not give an estimate of their job creation effects. Therefore, it is not possible to measure the job creation rate for LIP as compared with the "no program" alternative.

Another important difference is that the Canadian study examined the total job creation effect of the programs and not only the effect on government employment. Using their model, Cook et al. accounted for displacement by LIP of private as well as public employment, while the other studies completely ignored the effects of PSE on the private sector.3/

3/ This may be important if the governments supply services using PSE personnel that previously were contracted out by those governments or were previously purchased by the public privately. For example, PSE employees may be assigned to expand the services of health care facilities. If this means that more Medicaid and private patients use these clinics instead of private facilities, these latter may reduce their employment levels.

Given these differences, though, when the LIP program was compared to a tax reduction, 100 annual LIP jobs would have an overall job creation effect of 100 to 106 additional jobs. The 100 LIP jobs also would create 84 more jobs than would an average expenditure of the same funds on general government goods and services. It should be noted that most of the net increase in employment was filled by persons from outside the labor force and not by reducing the number of unemployed.

Discussion. The job creation rate of the LIP program is higher than the others we have studied. Part of this difference is definitional, as just explained. Another difference probably lies in the nature of the programs. The LIP projects were submitted by nongovernmental units (only 21 percent of the projects were sponsored by government),[4] were very shortrun, averaging three to four months in duration, were small, particularly in the later years, and had a relatively low acceptance rate, no higher than 40 percent. Thus, there were very limited possibilities for fiscal substitution to take place.

One can also question the accuracy of the model involved. Macroeconomic models estimate their parameters as falling within a range of values based on past relationships. The ability of such models to represent accurate pictures of changing situations in employment has been quite limited in recent years. They have missed the mark often.

Finally, in the estimation of the effects of LIP, Cook et al. made several specific assumptions dealing with the labor force. Specifically, they assumed that LIP participants who reported themselves as unemployed or out of the labor force of the period immediately prior to entering the program would continue to be unemployed or out of the labor force for the period of the projects. For those employed, however, the assumption was made there there would be an equal number of persons who would become unemployed were there no program. Thus, the authors built into the model a 100 percent job creation effect (for the first round of the economic multiplier process). Under these circumstances, the subsequent findings of substantial job creation by LIP is not surprising.

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[4] Joint Economic Committee (16), p. 9.

APPENDIX B - FISCAL SUBSTITUTION MODELS

Using the notation of Johnson and Tomola (15) with:

N = per capita non-PSE state and local employment;

Y = per capita income, including federal grants;

K = children ages 5-19 per capita;

P = number of PSE slots per capita;

PD = number of PSE slots per capita in the seven quarters from 1972: IV through 1974: II and in 1975: III when this number was decreasing;

t = the number of quarters elapsed since 1966: I;

S_1, S_2, S_3 = the quarter of the year;

we can detail the specification of Models I through V.

I. $$N_t = \alpha_0 + \alpha_1 W_t + \alpha_2 Y_t + \alpha_3 K_t + \alpha_4 P_t + \alpha_5 N_{t-1} + \alpha_8 t + \alpha_9 S_1 + \alpha_{10} S_2 + \alpha_{11} S_3$$

II. $$N_t = \alpha_0 + \alpha_1 W_t + \sum_0^5 \alpha_{2i} K_{t-i} + \sum_0^5 \alpha_{3i} K_{t-i} + \sum_0^5 \alpha_{4i} P_{t-i} + \alpha_8 t + \alpha_9 S_1 + \alpha_{10} S_2 + \alpha_{11} S_3$$

where the subscript i denotes the number of periods the term is lagged. Model II is identical to the Johnson and Tomola equation, except that there are no restrictions whatsoever on the coefficients of the terms in Y, K, or P. (They are entered as separate independent variables in a simple multivariate regression.)

III. $$N_t = \alpha_0 + \alpha_1 W_t + \alpha_2 \sum_0^5 \delta_i^1 Y_{t-i} + \alpha_6 \sum_0^5 \delta_i^4 (Y_{t-i})^2$$

$$+ \alpha_3 \sum_0^5 \delta_i^2 K_{t-i} + \alpha_4 \sum_0^5 \delta_i^3 P_{t-1} + \alpha_8 t + \alpha_9 S_1 + \alpha_{10} S_2 + \alpha_{11} S_3$$

This model is the same as that of J-T 1966 except for the quadratic terms in Y that have been added.

IV. $$N_t = \alpha_0 + \alpha_1 W_t + \alpha_2 \sum_0^5 \delta_i^1 Y_{t-i} + \alpha_3 \sum_0^5 \delta_i^2 K_{t-i} + \alpha_4 \sum_0^5 \delta_i^3 P_{t-i}$$

$$+ \alpha_7 \sum_0^5 \delta_i^5 PD_{t-i} + \alpha_8 t + \alpha_9 S_1 + \alpha_{10} S_2 + \alpha_{11} S_3$$

where the α_i are coefficients based upon an Almon lag procedure using a quadratic polynomial with the end-point coefficient restricted to zero. Model IV is identical to the Johnson and Tomola equation except for the addition of the lagged terms in PD.

V. $$N_t = \alpha_0 + \alpha_1 W_t + \alpha_2 \sum_0^5 \delta_i^1 Y_{t-i} + \alpha_3 \sum_0^5 \delta_i^2 K_{t-i} + \alpha_4 \sum_0^5 \delta_i^3 P_{t-i}$$

$$+ \alpha_8 t + \alpha_9 S_1 + \alpha_{10} S_2 + \alpha_{11} S_3$$

Model V is identical to the J-T 1977 model, except that the data for N and P are adjusted in the second and third quarters of 1972 and 1973 to remove the summer youth PSE slots.

The more technically minded reader may be interested in comparing the fractions of variance in N explained by each of the models (the R^2). For the Johnson and Tomola equation this was .9982. For Models I-IV, respectively, the R^2 were: .9973; .9992; 9985; and .9992. The statistic for Model V, which is not strictly comparable to the others because the adjustments to the data necessarily changes the series on the dependent variable, is .9981.

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AN ESSAY ON SUBSIDIZED EMPLOYMENT IN THE PUBLIC SECTOR

BY

PROFESSORS HARRY KATZ AND MICHAEL WISEMAN

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AN ESSAY ON SUBSIDIZED EMPLOYMENT IN THE PUBLIC SECTOR

Harry Katz and Michael Wiseman*

Programs for Subsidized Employment in the Public Sector (SEPS) typically involve a payment or "grant" by a higher to a lower level of government to bring about employment of selected persons in the public sector. In this paper we review aspects of regulation development for the programs of this type that have been implemented since 1970. The evolution of regulations for these programs and the reasons for changes that have occurred are an important source of information on problems encountered in the design and implementation of subsidized employment policies.

Our discussion concentrates on four identifiable SEPS programs: the Public Employment Program (PEP) funded by the Emergency Employment Act of 1971, the jobs created by Title II of the Comprehensive Employment and Training Act of 1973, the countercyclical public employment initiated as part of CETA by the Emergency Jobs and Unemployment Assistance Act of 1974, and employment generated by the "projects" policy begun with the Emergency Jobs Programs Extension Act of 1976. There are a number of antecedents to these programs that substantially influenced both their design and political reception, but these have been discussed elsewhere.[1] The enabling legislation is summarized in table 1.

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The paper has seven sections. We first outline the varieties of SEPS that appear in discussions of the policy. In section II we discuss the interpretation of existing SEPS programs as grants-in-aid. Sections III through VI deal with major problem areas in implementation of public employment policies. We conclude by discussing the implications of our findings for incremental improvements in existing programs and the feasibility of the SEPS policy that is included in the administration's welfare reform proposal.

I. The Varieties of Subsidized Public Employment Policies

All SEPS policies involve filling jobs with "target" jobholders. The nature of the jobs filled and the jobholders for whom the jobs are designed depends upon the policy pursued. Subsidized job programs implemented in the U.S. in the recent past have incorporated combinations of features from two or more of the five basic types of subsidized employment:

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[1] Specific references for enabling legislation and subsequent regulation development for the post-1970 programs are given in the appendix. For a discussion of the antecedents, see Briscoe [1972], Kesselman [1977], and Levitan and Taggart [1972].

TABLE 1

IMPLEMENTING LEGISLATION FOR RECENT SUBSIDY PROGRAMS FOR PUBLIC SECTOR EMPLOYMENT

Legislation	Date	Content
Emergency Employment Act of 1971 (EEA) Public Law 92-54	July 12, 1971 (no longer in effect)	Established system of grants-in-aid to local governments for jobs creation; included separate allocation procedures for jobs aimed at general unemployment and jobs to be filled in areas of above-average concentrated joblessness.
Comprehensive Employment and Training Act of 1973 (CETA) Public Law 93-203	December 28, 1973	Included subsidized public sector employment as manpower policy component for areas of substantial employment; lowered federal subsidy while tightening restrictions on participants. Origin of Title II programs.
Emergency Jobs and Unemployment Assistance Act of 1974 (EJUAA) Public Law 93-567	December 31, 1974	More than doubled authorized SEPS positions as response to 1974-75 recession through establishment of new, countercyclically oriented, Title VI program.
Emergency Jobs Program Extension Act of 1976 (EJPEA) Public Law 94-444	October 1, 1976	Required that additional Title VI positions beyond "sustainment" levels established at certain dates be in "project" employment with duration limited to one year and specified eligibility conditions for such positions. These conditions were also made applicable to half of turnover replacements in sustainment positions.

- *Countercyclical*--oriented toward expanding federal spending with maximum employment impact during a recession.
- *On-the-job training*--using employment in the public sector to teach needed job skills.
- *Income transfer*--using employment in the public sector as an adjunct to income redistribution.
- *Structural change*--oriented toward changing labor market conditions in areas of exceptional unemployment by targeted hiring.
- *Job of last resort*--using employment in the public sector to assure that *some* jobs will be available to all persons eligible for transfers under an income maintenance scheme in which payments are conditional upon work.

The common feature of these policies is that the jobs are subsidized to attain at least one other objective beyond provision of the product nominally associated with the job itself. This ancillary objective in all cases has implications for the choice of person to be hired. Each policy is founded upon a "model": certain assumptions about the nature of the problem the policy addresses and the way in which SEPS achieves the associated objective. These assumptions and their implications for the nature of the jobs to be subsidized and the characteristics of the people who would ideally fill them are set out in table 2.

SEPS policies can fail for one of two reasons. First, the policy's logical or empirical foundation may be faulty. For example, one part of the countercyclical SEPS model is the notion that employment of some workers will have less effect on the rate of wage inflation than will

TABLE 2

ALTERNATIVE PROGRAMS FOR SUBSIDIZED EMPLOYMENT IN THE PUBLIC SECTOR

Program Type	Key Assumptions	Target Group	Job Characteristics		
			Wage	Duration	Product/Activity
Countercyclical	Fiscal policy works. SEPS expenditures are qualitatively different from alternatives with respect to targeting capability, employment effect. These properties permit attainment of more employment with less inflation than is possible with other expenditure policies with similar budget impact.	"Cyclically unemployed"; within this group those workers with characteristics consistent with distributional and inflation goals.	Generally unspecified; probably the "going wage" for positions filled.	In accordance with requirements of countercyclical stimulus.	Jobs must be incremental to employment in absence of program.
On-the-Job Training in the Public Sector	OJT is an efficient training technique. Training in the public sector is superior to alternatives, given the number of additional slots to be filled.	Untrained workers.	Generally unspecified; may approximate what is anticipated following completion of training.	Consistent with requirements of training.	Must involve training and/or certification for access to regular public and private sector jobs. Need not be incremental to total employment to achieve OJT goals, but must increment the number of training and/or certification opportunities available to target workers.
Income Transfer	Remuneration for some jobs in the public sector exceeds what is available for other private and public jobs that require equivalent skills. Significant redistribution can be achieved by assuring that these jobs go to targeted workers.	Persons who, should they obtain such jobs, would experience greatest gain in expected income or for whom the associated wage change would have greatest effect on poverty.	Above average for labor market, given the character of the work.	Indefinite, likely to be long.	Need not be incremental to total employment by employer, since objective may be only to redistribute existing jobs to maximize poverty impact. Must be increment in number of equivalent opportunities available to targeted workers.
Structural Change	Some workers have low earnings due to excess supply of labor in their skill/location class. Wages/earnings can be forced up by increasing demand through SEPS, i.e., the supply of labor to these skill categories or locations is inelastic with respect to variations in wages, unemployment rates.	Workers in labor submarkets in which supply/demand conditions bring about wages and annual earnings that are below policy targets.	At or above market levels.	Indefinite without OJT, some other skill-enhancement program, or relocation.	Jobs must be incremental to the supply of employment for persons within the target class.
Job of Last Resort	Job shortage is a significant constraint on use of work-conditioned income maintenance programs. This constraint can be reduced through provision of jobs of last resort in the public sector.	Designated earners in low-income families who are unable to locate other employment.	Low; no better and perhaps less than lowest unsubsidized job market wage potentially available to members of the target group.	Indefinite, expected to be short	Jobs must be incremental to supply of jobs for persons within the target class.

employment of others. This assertion involves a definite theory of labor market operation and the empirical presumption that real-world labor markets conform to the model. If the model doesn't fit, then the SEPS policy it inspires may not have a significantly different effect on inflation than a policy targeted on some other group.[2]

SEPS policies can also fail because of difficulties of implementation. Continuing the same example, while the theory may be right in pinpointing workers with characteristics X as the optimum employees for an inflation-minimizing SEPS, in practice it may be impossible to identify and employ such workers in the rapid fashion essential to use of SEPS for timely fiscal policy.

This paper concentrates on issues of implementation and what experience has taught about the feasibility of such efforts. But we emphasize that this is at best only half the SEPS story. We are assuming that if such jobs can be delivered, they will do what their sponsors intend. The extent to which this is true is a subject for continued research.

II. Public Service Employment As a Grant-in-Aid

SEPS Under Title II of CETA

As our basis for discussing the current system for provision of subsidized employment in the public sector, we sketch the operation of public employment under title II of the Comprehensive Employment and Training Act of 1973 (CETA).

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[2] For a careful discussion of the effect of subsidized employment on inflation, see Baily and Tobin [1977].

Title II of CETA made grants available to "prime sponsors" from the federal treasury for employment of persons residing in "areas of substantial unemployment" within their jurisdictions. As defined by the CETA legislation, prime sponsors are individual or combined political jurisdictions with populations of 100,000 or more or "balance-of-state" areas outside such jurisdictions for which public employment was to be operated by state government.[3] The prime sponsor is the fundamental unit of operation for all CETA activities; provision of SEPS is but one of a number of manpower-related sponsor operations. An area of substantial unemployment was defined to be "any area of sufficient size and scope to sustain a public service employment program and which has a rate of unemployment equal to or in excess of 6.5 percentum for three consecutive months."[4] In the regulations published to implement the program, the Department of Labor requires such areas to include at least 10,000 people.[5] The original (fiscal 1975) allocation of funds for this purpose was $370 million. Eighty percent of this money was allocated to areas of substantial unemployment on the basis of estimated numbers of unemployed persons in each. The remainder of the funds were allocated at the discretion of the Secretary of Labor.[6]

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[3] *Comprehensive Employment and Training Act*, Public Law 93-203, Section 102(a). Some units with less than 100,000 population operate CETA programs as "program agents."

[4] Ibid., Section 204(c).

[5] *Federal Register*, March 19, 1974, Sec. 94.4, p. 10375.

Under CETA II, federal SEPS grants were to pay 100 percent of wage and benefit costs of jobs up to a maximum of $10,000 per job. At least 90 percent of grants made under the program were to go for wages and benefits of persons hired under the program. The legislation permits supplements from local funds to wages paid in cases where the salary exceeds $10,000 yearly. Persons hired using title II funds were required to be unemployed for thirty days or more, and "special consideration" in employment was to be given persons "most severely disadvantaged in terms of length of time they have been unemployed and their prospects for finding employment without assistance. . . ."[7] Special consideration was also directed for veterans, welfare recipients, and former participants in manpower training programs.

The Logic of Federal Finance

Why should SEPS be operated through a process such as that created by CETA? Jobs for any of the five SEPS policies outlined in table 2 could be created and filled to some extent by the federal government directly. Since such policies involve income transfers and, for the countercyclical model, fiscal policy, there are strong agruments for making them functions of upper levels of government. These arguments bear repeating because they have important implications for operation of SEPS.

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[6] For a discussion of allocation procedures under EEA and CETA, see Wiseman [1976], pp. 73-76.

[7] *Comprehensive Employment and Training Act*, Section 205(c)(7).

In general local governments are expected to underspend on policies that improve the well-being of the poor. This occurs because the local taxpayers who pay all the costs of local poverty policies reap only part of the psychic and material benefits from benevolence. Local governments cannot conduct fiscal policy because they lack the latitude in deficit finance enjoyed by the federal government. Even if local governments could borrow to expand outlays for countercyclical purposes, they would also be likely to underspend for this purpose because of "spillovers" of benefits to citizens of other jurisdictions.[8]

One answer to these problems is to operate transfers and fiscal policy at levels of government sufficiently inclusive to assure that both benefits and costs are "internalized." If this is correct, it means that, for example, central city SEPS should be at least partly financed from the incomes of suburban taxpayers as long as both suburban and central city dwellers benefit when the status of the urban poor is improved. Likewise, suburban as well as central city residents benefit if fiscal policy successfully expands national output. Taxpayers would be burdened by the obligation of future payments to outside bondholders if local governments attempt stimulus spending. But since the public debt is largely held by U.S. citizens, if national output is increased by deficit-financed SEPS expenditures, no national burden is created.[9]

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[8] The actual effects of local countercyclical government expenditures might be offset by reductions in other taxpayer outlays as a consequence of the effect of new government debt on local property values. Even if local government debt is locally held, the statement in the text holds if the local economy is "open"--that is, if a significant portion of local expenditures go for goods and services produced elsewhere. For a discussion of these points, see Oates [1972], chapter 1.

Even when federally financed, there exist good reasons for utilizing local governments for creation of SEPS jobs. The state and local employment base is much greater than that of the federal government and is better dispersed geographically. The type of services most often cited as candidates for expansion through SEPS are generally local responsibilities. Also, it is part of the ideology of "fiscal federalism" and a common observation that local governments are more efficient in general operations. For these and other reasons, all recent SEPS policies have been operated through grants-in-aid from federal to local governments.

The details of the financial aspects of these programs should not be allowed to obscure the reasons for federal involvement. The problem addressed by SEPS grants-in-aid is, at bottom, not one of *resources* but of *externalities*. Money and efficiency are not enough. If resources were the only factor constraining local fiscal and transfer policy, general revenue sharing alone would create SEPS. But nothing akin to the policies outlined in table 2 is normally observed in local government operations, even in jurisdictions with exceptional tax bases and persistent surpluses. Given this empirical observation, an essential element in operation of SEPS through grants-in-aid is creation of incentives to spend money in ways that would not otherwise be undertaken. These ways presumably reflect priorities established in light of the national benefits of such policies. Without such incentives, it is likely that local governments will develop what will, from their perspective, be better ways to spend the money. Such purposes, while perhaps meritorious, will inevitably reflect local rather than national interests.

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[9] The "if" in this statement is a nontrivial reservation, since under circumstances that may be quite common fiscal policy can reduce national output by "crowding out" private investment. See Blinder and Solow [1974].

The SEPS Exchange

There are two extreme views of the relation between federal and local government implicit in the process of giving and receiving grants. One, what we will call the *gift* or *transfer* relation, is the essence of revenue sharing. Grants dispensed in this mode involve the creation of no substantial obligation on the part of the grantee. The original arguments for general revenue sharing called for collection of such money at the federal level primarily because of the greater efficiency and progressive character of the federal tax system. Once collected and redistributed, the money was to be spent as local governments saw fit.[10] The other we will call the *exchange* relation. Grants dispensed in this mode involve creation of an obligation on the part of the grantee. The grants buy something. The pure form of the transfer relation is the anonymous gift; the pure form of the exchange relation is the purchase of a good or service.

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[10] See the discussion of the original Heller-Pechman proposal in Maxwell and Aronson [1977], p. 71.

Given the likely differences between federal and local objectives in SEPS operation, we believe the system of grants-in-aid used for this purpose is best thought of in terms of an exchange relationship. While the EEA and other CETA programs differ in minor ways from the title II program described above, the object remains the same: With SEPS grants the federal government is attempting to *buy* a number of jobs for persons with certain characteristics. The sellers of such jobs (prime sponsors and their constituent governments) provide them in return for the grant and the value of the services each job provides to the local government. The amount of jobs provided is dependent upon the value of output and the cost of locally provided inputs necessary to create SEPS jobs. These other inputs include nonwage items (materials) and wages required for the management and other personnel necessary to fill jobs with the people specified by federal requirements. The number of jobs local governments will fill is therefore likely to be positively related to the grant per job offered and inversely related to the significance of the constraints placed by federal requirements for job content and characteristics of jobholders.

When SEPS grants are viewed as part of this type of exchange relationship, the important questions for analysis of the policy concern how many jobs the federal government wishes to buy and how much it will have to pay to get them--the supply price. In this story, the operation of SEPS is no different mechanically from procurement of supplies for congressional offices. But this abstract view incorporates some extremely important assumptions about the circumstance under which jobs are bought. The difference between the reality that is assumed in this picture and the reality that surrounds SEPS programs in operation is the source of most of the interesting issues in analysis of SEPS regulations and many of the program's difficulties.

The key assumptions are:[11]

- The objectives are well defined, and both grantor and grantee understand the product or activity that the grantor is buying.
- The product or activity the grantor is buying can be readily observed.
- The product is produced and purchased at minimum cost.
- The contract is clear and enforceable.

In the next four sections of this paper we explain and discuss each of these assumptions in relation to existing SEPS programs and the regulations that are used in their administration. To narrow our focus somewhat, we utilize as examples regulations covering three critical SEPS aspects: (1) the targeted workers, (2) the process of application for SEPS grants, and (3) the evaluation of compliance with maintenance-of-effort requirements in SEPS contracts. For convenience, the development and content of regulations in each of these areas for the four programs identified in table 1 can be found in the appendix to this paper.

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[11] Our thinking about these issues is greatly influenced by the arguments in Doolittle [1977].

III. The Definition of Objectives

The Problems of Conflict and Ambiguity

Usually, when goods are bought and sold, the buyer knows what he wants. A common criticism of existing SEPS programs is that the federal buyer has at best only a vague notion of intentions. The objectives of the program, in other words, are not well defined. There are two senses in which this charge is applied. The first occurs when the program is given more than one goal and the goals conflict. The second arises when the policy, as described in enabling legislation, is ambiguous in intent and design, involving fragments of a variety of programs. Both conflicting objectives and ambiguity can, and generally do, occur simultaneously.

Objectives conflict when, given the amount of money to be spent, doing one necessarily means doing less of the other. Conflict between objectives was particularly evident in CETA in the first quarter of 1975, when enormous political pressure was generated to create and fill quickly the jobs authorized by Title II of CETA and the Title VI program authorized by the recently passed Emergency Jobs and Unemployment Assistance Act. Even with the best of intentions, when hundreds of jobs had to be created and filled within a matter of weeks, the opportunities for local government job restructuring and elaborate participant-selection procedures were limited. Under this circumstance, it quickly became apparent that the country could have a countercyclical job program or a program oriented toward workers with long-term employment problems or some combination of the two, but it could not have the best of both. Conflicts also arise in the selection of target jobholders, since the characteristics of available members of one group (say, for example, veterans) may not conform to the requirements of other program objectives (employment of the long-term jobless, equitable representation of various community groups).

Ideally, when a single policy is intended to do two or more conflicting things, the legislation should specify allowable trade-offs or at least procedures for determining what combinations of objectives should be pursued. Suppose a prime sponsor proved able to hire two skilled unemployed workers on January 1, 1975, but felt that, given two months for further job design, the same money could go to three lower-wage slots suitable for employment of people with long-run employment problems. Which option should be selected? Does the choice change if the time difference between the dates of job filling were one month instead of two? If it were three months?

In reality, no preferred trade-off is ever made explicit, and such choices are largely left to individual prime sponsors. This is no surprise; only in textbooks are preferences really so well specified that grantors can tell grantees that "one on-the-job-training slot is worth 1.73 positions suitable for the countercyclical model." But what is the reason for this ambiguity? At the federal level, two explanations are generally given. One refers to the ideology of fiscal federalism. Washington and local governments are, after all, partners in SEPS operations. In the design of such policies, the latitude granted local agencies in making decisions for which adequate information is available only on-site is a virtue. The appropriate federal stance is to make guidelines as broad as possible and then to observe what happens. By letting a "hundred flowers bloom" as each prime sponsor chooses among permitted options and matches jobs and program design to local conditions and needs, much might be learned about the things that can be done with SEPS. The second reason for ambiguity is that it is functional. For Congress, it may be politically useful to multiply the objectives of the program to create the appearance of acting on a broad range of constituent concerns. Also, for logrolling--that is, for purposes of collecting votes--it may help for a program to be all things to all people.

The Consequences of Ambiguity and the Special Problem of Fiscal Relief

A third possible explanation for the ambiguity that surrounds the objectives of SEPS in operation is that the costs of multiplying objectives are not well understood. All of the objectives of the program, including "fiscal relief," may be legitimate and desirable. It is natural to want to throw them all in, and people who prepare such legislation often fail to understand that saying good things is often not the same as--indeed, may stand in the way of--getting them done.

But as objectives multiply and the trade-offs remain matters of local discretion, the difficulty of monitoring local operations increases. Problems arise both in evaluating the combination of goals prime sponsors choose to pursue and their actual level of activity. Prime sponsors can justify deemphasis of one objective by reference to others. When each jurisdiction chooses among the hundreds of possible combinations of activities encompassed by enabling legislation, it is difficult to separate those that do represent the outer limit of "production possibilities" from those that do not. In other words, if objectives are ambiguous, it is possible that prime sponsors not only will produce, say, too much countercyclical SEPS and too little structural SEPS, but that too little of *any* kind of SEPS will be produced. It becomes difficult to divide those activities that represent attempts to do something unique from those that launder SEPS money for tax relief.

Perhaps the greatest difficulties in operation of SEPS as currently designed result from an objective never explicitly cited in the legislation: fiscal relief. Fiscal relief occurs when SEPS grants allow a community to provide, with a lower local tax rate, the set of services it would provide anyway. To many people, especially mayors, fiscal relief is an important component of current SEPS policies. While fiscal relief is compatible with some SEPS goals, it directly conflicts with many others. In pursuit of the expansion of the fiscal-relief aspect of SEPS, prime sponsors have an incentive to avoid the job design and population targets of SEPS, because if regulations were strictly complied with, fiscal relief would be unlikely to occur.

Under existing CETA Title II and VI programs, the federal government pays 100 percent of wage costs for most subsidized workers and small amounts (currently up to 15 percent of the wage bill) above this amount for administration. This combination does not reflect the relation between wage outlays and other costs in most state and local government operations.

Wages amount to about 56 percent of all state and local government expenditures.[12] Even allowing for some difference between the marginal and average composition of state and local government expenditures and the labor-intensive nature of the types of local services provided by CETA jobholders, it is likely that such a program will eventually require some local contribution. There is certainly little room for tax cuts. Indeed, it is conceivable that a SEPS program of this type might stimulate local tax increases by lowering the price of public services relative to the price of private goods.

To get fiscal relief (a reduction in taxes) from this program, it is necessary to break the rules and use SEPS hires as substitutes for normal hires. If such relief is expected, then it must be obtained *sub rosa*, and this forces the regulations to be ambiguous. This, of course, further complicates the monitoring of the program.

Program Developments

Since 1971, three changes in SEPS law have significantly affected the choice and definition of objectives of the program. These are: (1) the decline in the importance of the title distinctions and associated geographic targets, (2) the narrowing of the target groups for subsidized jobholding, and (3) the recent emphasis on projects as a vehicle for job creation. We summarize these changes below.

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[12] This is the share of wages and salaries in purchases of goods and services by state and local governments in 1976. The share of wages in all state and local government outlays is lower because of the substantial amount of transfers included in such outlays. See *Economic Report of the President* (1977), tables B-2 and B-10.

1. *Title distinction and geographic targeting.* EEA initiated a two-prong employment policy with one section (section five) allocating money broadly among states and cities on the basis of general unemployment and a second section (section six) providing funds for residents of specially identified "areas of substantial unemployment." Virtually all of CETA Title II funds were concentrated on the substantial unemployment areas, but more general-purpose funds were added with Title VI. There is no evidence that the distinctions between Title II and Title VI funding rules have made any difference for program operation in most areas. Neither EEA nor CETA contained provisions requiring that jobs filled by prime sponsors with residents of the areas of substantial unemployment, using monies allocated on that basis, be incremental to jobs filled using more widely targeted funds, even though the area of substantial unemployment was eligible for those too. Also, the lion's share of hiring under both Title II and Title VI CETA programs has taken place when the unemployment-rate restrictions used to define areas of substantial unemployment were satisfied by virtually all urban areas.

The exigencies of funding and refunding have also eroded the importance of the geographic restrictions used to divide the targets of CETA's Title II and Title VI funds. Delays and variations in the time pattern of funding programs of each type, and the unwillingness of prime sponsors to lay off workers, have combined to produce frequent switching of CETA workers from one title to the other. Since jobs remain the same, each movement of this type further blurs the distinction between programs. The Department of Labor has adopted the stance that when such transfers occur, eligibility requirements are not reapplied; any worker who initially satisfied them can be transferred across programs or leapfrogged out of an old program and into a new one.

The idea of a "two-tier" public employment program, with separate structural and countercyclical components, has a long and honorable history. The lesson of experience is that, in practice, maintaining the distinction while operating both programs is difficult--and may be impossible. In the absence of stringent restrictions, the SEPS equivalent of Gresham's Law (that bad money will drive good money out of circulation) will cause the structural program to disappear. The allocation rules may serve to concentrate SEPS funds in older urban areas beyond what would occur should allocation be simply proportional to unemployment, but available evidence is that such effects, if present, are modest.[13]

2. *The narrowing of target groups.* The Emergency Employment Act placed no restrictions on jobholders beyond stipulation that "all persons . . . , other than necessary technical, supervisory, and administrative personnel, will be selected from among unemployed and underemployed persons."[14] The requirement was listed as number seventeen in a list of twenty "assurances" and other obligations required of grantees

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[13] Wiseman [1976], p. 94.

[14] *Emergency Employment Act*, Public Law 92-54, Section 7(c).

under the program. In the regulations subsequently issued by the Department of Labor, this was made more explicit by requiring participants to be unemployed for at least seven days prior to job entry.[15]

A second round of regulations for EEA, issued during 1972, elaborated on the allocation requirements for the program. Employers were to give hiring preference to (a) veterans, (b) persons less than eighteen or more than forty-five years of age, (c) persons from poor families, (d) workers with a native tongue other than English, and (e) workers unemployed due to "technological displacement." Among these groups, veterans were to be given greatest weight. The Department of Labor set a national goal that one-third of all EEA hires were to be veterans.

With the Title II public employment program of the Comprehensive Employment and Training Act, the unemployment requirement for program participants was expanded to thirty days, and the act called for special consideration for the long-term unemployed, welfare recipients, and former manpower trainees. The Title VI public employment program added as workers worthy of special consideration persons who had exhausted their unemployment compensation benefits or persons jobless but now ineligible for those benefits. For both EEA and CETA, special consideration proved difficult to implement, except in cases in which prime sponsors were themselves willing to adopt explicit numerical targets. An important reason for this was--and continues to be--that detailed information on the number of persons in the special-consideration categories is simply not available on a timely basis for the populations served by most prime sponsors. Typically, there is no available measure of composition of normal city hires for most of these factors. As a result, it is difficult to tell when special consideration is being granted and when it is not.

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[15] See the appendix for jobholder targeting regulation citation and history.

CETA legislation requires that prime sponsors allocate the jobs in such a way that "significant segments" of their populations be served equitably. Significant segments, according to the implementing regulations, are "those groups of people, to be characterized, if appropriate by racial or ethnic, sex, age, occupational or veteran status, which causes them to generally experience unusual difficulty in obtaining employment and who are most in need of the service provided by the Act."[16] Equitable service was defined in the regulations to mean hiring in proportion to representation in the pool of unemployed. Significant deviations from this standard required special justification. In practice, lack of timely and reliable local unemployment data makes this requirement difficult to enforce. Enforcement is further complicated by the likely incompatibility between the targeting requirements and the significant-segments-allocation obligation.

The most dramatic change in objectives related to jobholders occurred with passage of the Emergency Jobs Programs Extension Act of 1976. The EJPEA changed the eligibility criteria for Title VI jobs by specifying that all additional jobs filled beyond a specified sustainment level and half of all hires made to fill vacancies in previously funded slots be members of one of the following groups:

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[16] *Federal Register*, April 9, 1976, Sec. 94.4(yy), p.15191.

(1) workers in families receiving aid through the Aid to Families with Dependent Children program; or

(2) workers living in "low-income" families who

  (a) have received unemployment compensation benefits for at least fifteen weeks, or

  (b) are ineligible for unemployment compensation benefits and who have been unemployed for fifteen weeks out of the preceding twenty, or

  (c) are unemployed and have exhausted such benefits.

The development of the targeting requirements reflects a federal response to prime-sponsor behavior that could have been expected before the program was initiated. The less restrictive the SEPS eligibility requirements are, the greater will be the latitude that is exercised by job providers in hiring. Given such latitude, providers will always face a trade-off between hiring the disadvantaged and maximizing the benefits of the program to their constituents. The system as it exists provides no reward for attention to selection of workers on the basis of the impact of SEPS jobs on family income or skills, and, as a result, local service and efficiency objectives and priorities are certain to weigh heavily in hiring decisions. The Title VI extension targeting requirements attempt to refocus the program on more disadvantaged workers by restricting the pool of eligibles across which choices can be made. But the legislation creates no positive incentives for giving the jobs to the most disadvantaged workers. The significance of the new eligibility requirements can be exaggerated, since prime sponsors have vacancies in Title II jobs and half of all Title VI "sustainment position" vacancies to fill with persons meeting only the older, less strenuous requirements. The outcome is uncertain, and at the time this paper was prepared, the impact on hires was not yet apparent.

3. *Projects.* The third development related to program objectives also occurred with the Emergency Jobs Programs Extension Act of 1976: the requirement that all new positions be in projects with a duration of no more than twelve months.[17] All earlier legislation had emphasized the "transitional" nature of subsidized employment and the temporary nature of both EEA and CETA jobs. But after six years of continuous funding, the point seems to have been lost on both prime sponsors and employees. As the jobs endure, the possibilities for use of CETA jobholders for performing regular public employee tasks multiply. The new legislation attempts to forestall such digestion by utilizing highly visible employment in identifiable tasks. However, it should be emphasized that it is the jobs, and not participants, that have a pre-specified duration. Participants can presumably be recycled from one project to another.

The shift to short-duration-project employment in EJPEA provides a recent and dramatic example of conflict of objectives in the CETA program. On the one hand, by encouraging quick filling of jobs in projects of fixed duration, the law minimizes the opportunities for on-the-job training or preparation of workers with severe problems for nonsubsidized employment. This orientation is clearly countercyclical. On the other hand, the requirement that new SEPS be in projects came packaged with a targeting restriction that is more likely to restrict the jobs to the hard-to-employ than any restriction adopted to date. The project package, in other words, is targeted on workers for whom such jobs seem the worst suited.

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[17] *Emergency Jobs Program Extension Act of 1976*, Public Law 94-444, Section 5(a).

Despite the mismatch of input requirements and job structure, the specification that jobs be in projects of limited duration provides a much clearer objective than has been characteristic of earlier programs. Furthermore, at the cost of limiting the types of activities in which SEPS participants may be engaged, the new law at least partially shifts the emphasis of the program from *inputs* to *outputs*. No previous public employment program has included a clear and binding statement of what was to happen after a subsidized job was filled. Without such output specification, monitoring flexibility is lost, and virtually no standards exist for evaluating program performance after the implementation stage. This implication is developed further in the next section.

Summary. Although laudible in abstract, the wide range of objectives assigned to SEPS by Congress under both the EEA and CETA programs has complicated monitoring of the program. The most severe problems have been associated, however, with the question of fiscal relief--that is, the extent to which SEPS-providing local governments are to be allowed to substitute SEPS funds for local revenues in their budgets.

If the regulations were followed exactly, no current SEPS program would provide fiscal relief. Regulation developments since 1971 have clarified the objectives of the program somewhat by restricting most additional SEPS jobs to persons with low incomes and a history of substantial joblessness. These are "structural" SEPS targets. But at the same time, other developments--such as concentration of jobs in short-term projects--have tended to emphasize countercyclical, as opposed to structural, goals. While specification of the nature of the job has been made more rigorous by the requirement that most new jobs be in projects, the expected consequence of SEPS jobs for jobholders remains uncertain. We conclude that changes in the program which make its objectives more specific would be likely to enhance its accomplishments.

IV. The Product Can Be Readily Observed

It is not clear that the federal government always gets the SEPS it pays for. There are two reasons for this uncertainty. First, unlike office supplies, the "delivery" of SEPS occurs off-premises. Second, since the product purchased usually is not easily distinguishable from other "goods" delivered at the same time, on the same site, for the same producer, it is difficult to establish a baseline from which the increment in production associated with the government's purchase is readily observed. Given these problems, the regulations can be viewed as selecting a set of signals that provide at least indirect evidence that the federal government is getting the product for which it is paying.

In monitoring SEPS, the Department of Labor relies upon two types of information. The first is observation that the design and operation of local SEPS programs are consistent with federal objectives. The second is observation that the execution of the policy matches the design.

Program Design and Operation

Existing CETA legislation provides considerable latitude for prime sponsor program operation. Basically, the regulations attempt to assure that local prime sponsors go through some process of tailoring program mix and hiring policies to local problems and that employing agencies "maintain effort." The system is immersed in the CETA training framework and is oriented toward the front end of operations--that is, the process of establishing an employment program.

1. *The CETA framework.* The current operative apparatus for SEPS looks like--and, in most instances, is the same as--that used for the rest of CETA activities. As envisioned in the original Comprehensive Employment and Training Act, the title II jobs program was but one element in a wide spectrum of manpower policies tailored to local need but funded with federal grants. Thus, the application for CETA II and, later, CETA VI grants (a) calls for identification of target populations (significant segments of the prime sponsor's population); (b) requires a description of the instruments to be employed--that is, the jobs to be provided; (c) emphasizes the on-the-job and job-related training aspects of the program, including placement services; and (d) indicates that the CETA planning councils will be employed as a resource for planning and allocating jobs.[18] The regulations imply, and indeed most enthusiasts seem to believe, that SEPS is an important component of any "comprehensive manpower policy."

It is important to recognize the differences between SEPS and the heterogeneous collection of training and placement activities prime sponsors undertake with money provided by other titles of CETA. First, the training and job preparation activities are far less likely to supplant other locally financed efforts. Should they do so, it is not considered a particularly serious problem, since general training programs of this type have been viewed for some time as being, to a significant degree, a federal financial responsibility. The CETA apparatus supplanted and extended the pre-CETA manpower programs that were directly provided by the then Manpower Administration. Second, although counterexamples abound, training programs generally have fixed durations. It takes only so long to train a keypunch operator, a baker, or a legal secretary, and only a few participants are recycled from one training program to another. And, third, the fiscal relief incorporated in the other programs extends only as far as local government resources were being used before CETA to provide training services to the program's target population.

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[18] The requirement that CETA planning councils be employed in an advisory role in SEPS planning was made explicit in spring 1975. For the development of regulations related to grant application requirements, see the appendix.

In contrast, the SEPS jobs have a very real potential for supplanting other locally funded activities, tend not to have fixed durations, and are enmeshed, we have argued, in the fiscal-relief issue. The difference was recognized by the authors of existing SEPS legislation and is reflected in the emphasis placed in both the law and the implementing regulations on the importance of funding additional employment and the provisions of assurance that prime sponsors will adhere to program goals. In both matters, the information used to assess compliance appears inadequate. Below we consider the approach to displacement first and then turn to other performance indicators established at the time of grant application.

2. *The problem of displacement.* The displacement regulations in CETA are based on a very simple model of what goes on when the federal government doesn't get the jobs it pays for. Upon receipt of federal money, the displacing prime sponsor is expected to attempt to lay off

employees hired with regular funds and substitute subsidized jobholders for them. To counter this tendency, the regulations include extensive procriptions against rehires, and prime sponsors must provide

> assurances that no funds . . . will be used to hire any person to fill a job opening created by the action of an employer in laying off or terminating the employment of any regular employee . . . in anticipation of filling the vacancy so created by hiring an employee to be supported [under CETA] . . . and assurances that jobs funded . . . are in addition to those that would be funded by the sponsor in the absence of assistance. . . ."[19]

Emphasis on maintenance of effort, defined as the absence of the layoff and substitution sequence described above, may be adequate to minimize displacement in the short run, but such restrictions are probably of minimal value over longer periods of time. Over the longer periods now customary for SEPS operations, displacement is likely to be a more subtle occurrence than is contemplated by the legislation and regulations. There are many ways in which the job impact of SEPS could be eroded even without the lay-off/rehire sequence against which the regulations implicitly guard. For example, the net employment effect of the program could be reduced if vacancy rates in unsubsidized job slots in the sponsoring agencies rise as the job provider, because of the pressures of filling SEPS jobs, allows the process of refilling the openings left from retirements in unsubsidized positions to extend for longer and longer periods of time. Also, the growth rate of unsubsidized employment might be retarded as the needs for which additional tax-supported employees would normally be hired are met with CETA workers.

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[19] *The Comprehensive Employment and Training Act,* Public Law 93-203, Section 205(c).

Genuine assessment of displacement requires guessing what sponsoring governments would have done in the absence of the program, and such forecasts are extremely difficult to make and defend. As a fallback, it has been argued by some that displacement can also be minimized by more intensive targeting of subsidized jobs on the hard-to-employ. Again, in the short run this is possibly true because of the difficulty of quickly inserting workers who meet subsidy requirements into the existing civil service job structure. As time passes, jobs can be restructured and skill requirements reevaluated in such a way that low-skilled workers can be, in many instances, substituted for high-skilled ones. Such people, of course, may require more management and more time to do such work, and as a result, the net employment effects of SEPS may be eroded by such developments but not reduced to zero. Nonetheless, tighter targeting is hardly a guarantee that displacement of sufficient magnitude to contradict the additional job creation intended by the exisiting legislation does not occur.

From the federal standpoint, the chief virtue of prohibitions against rehires and employment of CETA jobholders in positions similar to those from which nonsubsidized workers have been laid off is that such factors are observable. EEA and CETA regulations have required reporting of data or other observable performance measures. Chief among these is the set of employment and job-flow goals specified by the grantee in the original application. Perhaps the most significant development in this area is the requirement that prime sponsors now include with grant applications a month-by-month estimate of PSE employment, job turnover rates, and job allocation among "significant segments" of the prime sponsor's population. The importance of these reports is enhanced by recent changes in the Department of Labor's ability to reallocate funds when time tables are not met. This is discussed in section VI, below. The importance is diminished by the fact that such goals are set by the prime sponsors themselves and may reflect only what is accomplishable with mimimum effort.

3. *The ritual of assurances and certifications.* In addition to emphasis on maintenance of effort and establishment of numerical goals for job-filling and allocation, the grants application procedure for CETA requires declaration of a number of assurances by prime sponsors that other program objectives will be met. In many cases, these are lifted directly from the enabling legislation, and in grant proposals the "assurances and certifications" section is often photocopied from recommended versions provided by the Department of Labor. Although some of these are tangible (for example, the requirements that program participants in Title II SEPS be residents of the area for which the prime sponsor qualifies for assistance), many are not. When the requirements are not tangible, these formal declarations often provide the first and last element of monitoring.

Examples of certifications and assurances with little tangible content include the following requirements:

- "To the extent feasible, public service jobs shall be provided in the occupational fields which are most likely to expand within the public or private sector as the unemployment recedes. . . .
- "Due consideration will be given to persons who have participated in manpower training programs and for whom employment opportunities would not be immediately available. . . .
- "The program will, to the maximum extent feasible, contribute to the elimination of artificial barriers to employment and occupational advancement, including opportunities for the disadvantaged. . . .
- "The jobs in each category in no way infringe upon the promotional opportunities which would otherwise be available to persons currently employed in public service jobs not subsidized under the Act. . . ."

The regulations do not attempt to define "feasible extent," "maximum extent feasible," "due consideration," or "special consideration." Nor do they explain how prime sponsors can expand the number of entry-level positions in local government with "jobs which provide sufficient prospects for advancement" and eliminate "artificial barriers to employment and occupational advancement" of the target groups for CETA employment while, at the same time, not infringing "upon the promotional opportunities which would otherwise be available to persons currently employed in public service jobs not subsidized under the Act."[20] If there are twenty gardener positions and twenty assistant gardener positions in the parks department, and CETA creates ten more assistant gardener positions, the program certainly reduces the chance of promotion of any one of the persons employed in the unsubsidized assistant gardener positions.

The ritual of assurances and certifications has been part of SEPS monitoring since EEA. Most of these requirements are transferred directly from the language of the legislation; the Department of Labor seems to follow the rule in regulation writing that, in instances in which the regulations required by Congress are meaningless or contradictory, prime sponsors will be asked to provide assurances of compliance and the matter will then be dropped. Although it is not clear what else can be done, one suspects that the juxtaposition of farcical and serious regulations has the effect of diminishing the impact of those that can make a difference.[21]

A review of the application requirements shows little movement or innovation in the front end of SEPS operation. Basically, the procedure is still that required by EEA. Prime sponsors now have to be more specific about timetables and are obligated to include CETA planning councils in the process of grant formulation. The former requirement is widely believed to have increased the visibility of some aspects of SEPS operations. The effect of the latter is to further emphasize SEPS as a component of general manpower planning at the local level. We have argued that SEPS is considerably different from other CETA policies. Because of these differences, the mechanisms that may perform well in connection with other activities may not be sufficient for assuring that federal SEPS goals are met.

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[20] We have taken these quotes directly from the Title II grant application of the prime sponsor for a major urban area.

[21] There are two possible benefits from the Department of Labor approach to the assurances problem. One is that the assurances call sponsor attention to things they should be doing something about. The other is that such assurances give local groups a basis for pressing for action. We thank Seymour Brandwein for this point.

Monitoring Execution

The objectives for CETA workers, once jobs are filled, are nebulous at best. The major emphasis of regional Department of Labor offices is on compliance of prime sponsors with the "plans" incorporated in the grant proposals and observation that maintenance of effort, as described in the previous discussion, continues.

The major source of information used in the monitoring process is the weekly, monthly, and quarterly reports of prime sponsors once a SEPS grant is made. Under the current expansion program, weekly reports are collected on PSE program enrollment. Monthly reports are now required on cash flow. And quarterly reports include, in addition to financial data, information on flows of people into and out of the program and the characteristics of new enrollees. The weekly reporting system serves primarily as an instrument for speeding hiring to assure that the program serves its countercyclical objectives. The quarterly reports regularly include performance indicators which reveal the consistency or lack of it between program accomplishments and the plan included with the grant application. For example, for the proposal to be consistent with the Department of Labor's national goals, it is expected that at least one-third of newly created positions will be filled with veterans. If for any indicator the difference between actual achievement and the numerical goal included in the program exceeds 15 percent of the goal, an explanation for the discrepancy is required in the report.

The procedure for monitoring via performance indicators has been a feature of SEPS operation since the Emergency Employment Act. The approach has several obvious deficiencies. The first is that it rests on acceptance of the goals of the initial grant proposal. As a result, the significance of monitoring depends upon the care with which the grant proposal was read and evaluated. The second is that although the program calls for an increment in total employment by the sponsoring unit, information is collected only on jobs designated as CETA-subsidized. This serves to limit maintenance-of-effort monitoring to the most visible types of violations. It also means that net effect of the program on the demographic composition of city employment cannot be detected, because trends in SEPS job allocation may be offset by practices in filling unsubsidized positions. Third, by their nature, performance indicators measure the things for which data are readily accessible, and monitoring personnel prefer emphasis on the "tangible"--those things for which data are collected--over emphasis on intangibles for which data are harder to come by or ambiguous in interpretation. As a result, the compliance system may tend to focus excessive attention on certain program-operating aspects like veteran quotas that, should other goals of the program be equally well articulated, would not be so heavily emphasized. Under the existing program, it may be that compliance with hiring timetables is an example of the type of objective that is overemphasized because performance along this dimension is readily measured.

Finally, the object of *monitoring* has occasionally been confused with the object of *evaluation*. Each of the SEPS policies described in table 2 has an objective. In each case, when the policy works, certain things should happen. For example, if SEPS works as on-the-job training, then people who are employed in such jobs should leave for unsubsidized positions and show post-program incomes that are higher, on average, than those of otherwise similar workers who did not receive the jobs. The object of monitoring is to assure that the jobs the government buys have the characteristics and are filled with the type of people called for by the policy. In the OJT case, this means assuring that the jobs purchased go to the program's targets and that employment is well managed and involves tasks that impart skills. Evaluation, on the other hand, concerns whether or not putting the targeted workers through this experience makes a difference. It is monitoring that is the job of the regional offices of the Department of Labor.

On occasion, monitoring has shifted emphasis from job content and targeting to assessment of outcomes and creation of pressures on prime sponsors to show "successes." The most dramatic example of this was provided by the attempt of the Department of Labor to impose a requirement for a 50 percent transition rate of workers in EEA from subsidized to nonsubsidized jobs.[22] This unsuccessful effort was an extreme case, but misdirection toward success indicators is characteristic of other indicators currently used in monitoring as well. Any prime sponsor can achieve turnover and income gains by careful selection of jobholders. Transition can be assured, for example, by hiring from the top of existing civil service job applicant lists. As performance indicators oriented toward outcomes are introduced, prime sponsors logically redirect hiring plans toward assuring that such goals will be attained. When this happens, it is often to the detriment of the program's focus.

Once the appropriate jobs are delivered to persons in the target groups by the grants policy, evaluation of SEPS as a policy can be done by comparing the experience of persons in the program to those who did not receive such jobs. But delivery is the essential first step and a sufficient object of concern for regional offices. Only if job content and target are consistent with SEPS policy is there hope for attaining the substance as well as the appearance of success.[23]

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[22] See Levitan and Taggart [1974], pp. 32-36.

[23] For further discussion of the difference between evaluating the SEPS grants policy and SEPS itself, see Wiseman [1977].

Summary. Unlike many other CETA activities, SEPS gives money to local government primarily to do things that in certain respects are what they do as a matter of course. This similarity raises problems of identifying the actual effect of SEPS grants on local governments. The object of monitoring is to assure that the jobs the government buys are delivered to SEPS target groups. In finding this out, the Department of Labor collects data on design, implementation, and execution phases of the program. In the design/implementation phase attention has been primarily devoted to establishing a series of numerical targets for various program features to be compared to actual performance during program execution, assuring that displacement does not occur, and collecting assurances and certifications concerning objectives that cannot be quantified. We have argued that the concept of displacement used in monitoring does not cover many conceivable modes of displacement, that the assurances and certifications have little substantive content, and that the performance indicators, while useful, have serious deficiencies. As instruments for evaluating program execution, the value of such indicators rests upon the quality of the CETA plan submitted by the prime sponsor to obtain the grant. The indicators typically do not reflect developments (offsetting or complementary) in other, nonsubsidized employment by SEPS job providers. Use of such indicators may lead to overemphasis in monitoring on the aspects of program operation that are capable of numerical summary.

Evaluation of SEPS differs from monitoring of SEPS. The object of evaluation is determination of the extent to which SEPS jobs do what the models indicate. If monitors assume the role of evaluators, they may create incentives to show "successes" that will reduce the effect of the program on its target groups.

We conclude that seven years of SEPS operations have not produced any significant changes which would improve the federal government's ability to monitor delivery or evaluate the effect of jobs aimed at structural problems. Changes have occurred which improve the visibility of job creation for countercyclical purposes, and these changes, if adopted in any countercyclical SEPS expansion in the future, should improve its impact.

V. The Product Is Produced and Purchased at Minimum Cost

One of the virtues of competition among suppliers of goods and services is that it creates incentives to produce and sell at the lowest price possible, given the cost of production. As a result, the market price of a good tends toward equality with the minimum price necessary in the long run to induce production. It is possible to make a similar distinction between what the federal government pays for a SEPS job--the "purchase price"--and the minimum amount necessary to induce a local government to create and fill that job--the "supply price."

An important problem in grants management for SEPS programs is that of bringing about the equivalent of a competitive outcome: convergence of these two prices. Before considering this problem, it is useful to recall how SEPS jobs are funded--or purchased.

Benefits, Costs, and the SEPS "Surplus"

In both the EEA and CETA programs, the allocation of SEPS funds among prime sponsors was made on the basis of relative shares of unemployed workers. This amounts to an entitlement, since unemployment and the numbers used for allocations are largely beyond the control of local governments. Once entitlements are announced, prime sponsors apply for the grants by outlining proposed job slots with specified wage rates in the grant application. The hiring plans for these jobs and other program specifications must be consistent with the requirements of the legislation. If consistent, the regional office of the Department of Labor accepts the proposal and makes the grant.

When filled, the jobs provide two things to the prime sponsor. One is a federal payment equal to wage costs and allowed administrative expenses. The other is the services of the jobs themselves--both the activity associated with the jobs and, to the extent the sponsoring government is interested in such things, the improvement in the well-being of the jobholder that occurs as a result of employment.

The costs of these jobs to the prime sponsor include the wages and benefits paid to the workers and the additional employees required to assist them, the cost of additional material inputs, and the political costs associated with hiring and, if necessary once federal funding is terminated, layoffs. It makes sense for the prime sponsor to choose to provide such jobs as long as the benefits associated with these jobs exceed the costs. It also makes sense for the prime sponsor to design and implement these jobs in ways that minimize costs and maximize local benefits. To the extent that the value to local taxpayers of such benefits exceeds costs, the prime sponsor captures a "surplus." The existence of such a surplus means that the federal government is paying more for the jobs than they cost to produce.

There are a number of reasons for believing that the surplus commonly generated by SEPS programs is large. Most of these reasons arise from the noncompetitive environment that surrounds federal-local negotiations over SEPS. Important aspects of this environment are:

1. *Absence of multiple suppliers.* As described above, SEPS grants are pre-entitled. The process of grant delivery is largely one

of compliance with federal minimum contract requirements. Given that compliance with regulations above and beyond the minimum standards typically serves to raise costs and reduce the surplus, prime sponsors have little incentive to do more than meet the minimum requirements. There are few rewards that federal officials can hand out for good performance. In some cases, funds have been reallocated on the basis of performance among prime sponsors within a labor market area, but only a few such instances have been reported. The discretionary funds available to the Department of Labor for allocation on grounds other than unemployment statistics constitute a small share of total funding. While originally such funds were frequently used for settling controversies arising in the process of entitlement, most now are allocated according to the basic CETA formulas.

2. *Noncomparability of programs.* The Department of Labor receives heterogeneous, noncompeting offers from area to area. In this context, it is extremely difficult to evaluate feasible prime sponsor activities in ways that permit comparison and rewards. In effect, each package of prime sponsor activities is a special case.

3. *Secrets.* SEPS suppliers have a monopolistic interest in not revealing available trade-offs. It is in the collusive interest of prime sponsors to make it look as though any effort to do such things as create more low-skilled jobs or hire more of the long-term unemployed involves exhorbitant and prohibitive costs. This is not to imply that conscious deceit necessarily occurs; it may just not be in the prime sponsor's interest to undertake experimentation that might reveal ways of doing more with the same amount of grant.

4. *Concentration on the margin.* There is an inconsistency between the notion that the SEPS surplus is large and the fact that in many areas prime sponsors seem to have difficulty in expanding employment as SEPS allotments are increased. The inconsistency is resolved when we draw a distinction between marginal jobs--i.e., newly created SEPS positions--and those that have been subsidized for a long time. The short-run costs of job creation are very high: management structures must be reorganized, space must be found, employees must be broken in. As time passes, benefits rise as displacement occurs and SEPS employees are sorted by firing those who are least productive. As a result of these developments, the benefit/cost ratio from SEPS as a whole (as perceived by prime sponsors) will exceed one and will improve with time. The progression is encouraged by monitoring policies that concentrate largely on incremental jobs.

It may be appropriate that some "producer's surplus", that is an excess of benefits over costs, be garnered by local governments from SEPS. The importance of the surplus differs between the countercyclical model and the others, however. In the countercyclical model, the federal government is attempting to expand national production of goods and services by increasing its own purchases and, through multiplier effect, the purchases of others. Under these circumstances, the surplus gained by state and local governments in this model may serve to redistribute part of the increase in output to them.[24] When the economy is operating with little excess capacity, however, other SEPS goals apply, and use of money for SEPS implies reduction in commitments and production elsewhere. Since the OJT and other goals of SEPS in this context can be accomplished by other policies as well, it is appropriate to ask whether SEPS as now produced is less than the cost of purchasing the same output by other means. As the surplus expands, it becomes less likely that this is true.

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[24] Note that this could also be done with general revenue sharing.

Summary. We conclude that SEPS policies as currently operated provide virtually no mechanisms to assure that the objectives of the program--the creation of jobs for a target population--are attained at minimum cost or even at similar costs in differing jurisdictions. Given the short-run perspective of countercyclical policy, this may make little difference. For use of SEPS for other purposes, however, it suggests that for any goal--affecting the demand for unskilled labor, providing on-the-job training, redistributing income--there may be superior alternative policies. Certainly one can reasonably suspect that with skillful bargaining, better definition of objectives, and different contract arrangements, the federal government could obtain as much of any of the SEPS objectives as is being obtained now with smaller total outlays. The fact that attempts have not been made to do so may be another manifestation of the importance of the hidden SEPS objective of fiscal relief.

Changes Over Time

Since 1971 the progression of SEPS policies from EEA to the title VI extension has both enhanced and reduced the size of the surplus available to prime sponsors. As suggested by the review of target requirements presented in the appendix, costs have been progressively raised by the tightening of the target requirements of these programs. Prime sponsor benefits have at the same time been lowered by repeated reduction of the nominal and real value of the wage subsidy. On the other hand benefits have been increased by gradual diminution of concern over displacement effects as jobs endure and growing recognition that such programs may last forever. These latter factors have served to increase the amount of job displacement that occurs and thereby to raise the benefits provided by these jobs to the prime sponsor. The net effect of all these charges on the surplus available to prime sponsors is uncertain.

VI. Enforcement of the SEPS Contract

In most circumstances in which goods are bought and sold, the obligations of buyer and seller are well understood and enforced, when necessary, by the legal system. As suggested by the discussion above, the development of a SEPS contract in which the desired output is well specified and the agreement is enforceable has yet to occur. Some changes in the SEPS contracts have taken place, however, and are worth examining.

The contract enforcement problems encountered in EEA and CETA are of three types: (1) problems arising from ambiguity in the specification of objectives and performance indicators, (2) problems arising from lack of expertise in the Department of Labor, and (3) problems produced by the shortage of usable penalties for noncompliance.

Objectives and Performance Indicators

For reasons already discussed, the existing SEPS programs have a variety of objectives, and this complexity has greatly complicated monitoring and compliance assessment. The regulations do exhibit some developments that have limited or improved the definition of options permitted prime sponsors. The changes are largely the product of learning by doing. In most cases, the revisions prohibit prime sponsors from activities or procedures that were unexpected by the writers of regulations in advance of program implementation and which, once observed, appeared inconsistent with program goals as interpreted by the Department of Labor. The approach to improvement of contracts has been oriented toward rules rather than incentives; regulation writers spend time writing rules to prevent wrong things because the creation of positive incentives for "right" behavior would require a substantial recasting of the CETA legislation.

Developments in objectives and performance indicators that are the product of learning by doing can be further divided between restrictions that program administrators feel are improving program outcomes now and those which currently have little observable effect but which may become significant in the future. Examples of restrictions that have improved the contract include (a) restrictions imposed on the designation of SEPS slots for "work experience," (b) changes in statutory eligibility requirements for program participation, (c) explicit timetables for job creation and filling, and (d) limitations placed on employment of laid-off public jobholders in SEPS jobs.

The work experience restrictions provide a good example of learning-by-doing. The original CETA regulations provided prime sponsors with the option of assigning participants in training programs to selected public service tasks to gain work experience while receiving a minimum training stipend. Almost a quarter of employment in Title VI SEPS positions during the first half of 1975 fell under the work experience classification;[25] the casual observer might have been tempted to assume that prime sponsors were utilizing the countercyclical jobs program to a remarkable extent to extend and enrich training programs for the low-skilled. In fact, in many instances the work experience designation permitted prime sponsors to circumvent the "prevailing wage" restrictions in the act. Regulations published later closed that loophole, and the number of positions so designated rapidly declined. It is not surprising that writers preparing regulations under the pressure created by the press for job creation in December 1974 and January 1975 missed some loopholes.

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[25] U.S. Department of Labor, Manpower Administration, *QPR and CETA Desk Review, National Totals*, Report No. 45, December 21, 1975, p. 1.

While at this writing data are not available to permit conclusive assessment of the effect of the tighter targeting restrictions imposed by the Emergency Jobs Program Extension Act of 1976, these changes appear to have dramatically restricted employer option in the choice of workers to be given SEPS under the additional funds provided by the 1977-78 "stimulus" expansion.[26] They substitute a concrete requirement for the nebulous and impossible-to-enforce "special consideration" obligations. The same is true of the timetables for employment imposed by the regulations implementing the legislation.

Since the Emergency Employment Act, the re-employment of laid-off public jobholders in SEPS has been a serious problem. Both EEA and CETA provided for such rehires if, in the words of the CETA regulations, "it does not violate the maintenance of effort provisions of the act."[27] The problem is that it is virtually impossible to assess the extent to which such rehires meet these restrictions, and as a result it is widely believed that the option has been exploited to provide fiscal relief, especially in older cities of the Northeast. The latest regulations add this additional restriction that rehires not exceed 10 percent of all subsidized jobs, although prime sponsors can petition the Department of Labor to relax this restriction if they can demonstrate "a compelling need for such a modification."[28] The spirit of the new regulations is that such modifications will be hard to obtain. The new toughness on rehires may come too late; expansion of city revenues with continued economic recovery would probably mean a significant increase in employment even in the absence of CETA, and under these circumstances the layoff-rehire cycle may not be, from the prime sponsor's standpoint, worth the effort.

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[26] The effect of these restrictions on the overall targeting of CETA is probably moderated by the simultaneous expansion that has occurred in Title II slots. These retain the original CETA eligibility requirements and can therefore be used as a fallback for hiring persons who do not fit the new ones.

[27] *Federal Register*, January 10, 1975, Section 99.35(c), p. 2366.

Less tangible changes have been made that may also have an impact on contract enforcement if the program endures. In 1975, prime sponsors were required as part of the grant application to submit data that established that no termination or layoff of regular employees occurred due to receipt of federal funds. Now prime sponsors are required to maintain and provide on request documentation (which may include expenditure and revenue data) that "clearly demonstrates" that maintenance of effort violations have not occurred.[29] These regulations potentially allow analysis and evaluation of overall employment levels and trends in agencies creating PSE jobs. We have argued above that one of the difficulties with the PSE contract is the fact that while what is intended is the purchase of an increase in total agency employment, by and large monitoring has focused only on the jobs nominally funded. The change permits an expansion of data collection to cover total government employment.

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[28] *Federal Register*, October 18, 1977, Section 96.24(f)(2), p. 55755.

[29] These requirements are listed in the *Federal Register*, January 10, 1975, Section 99.15(e), p. 2364 and January 11, 1977, Section 96.24(j), p. 2428.

A second change of potential significance is the assignment of financial responsibility for errors in eligibility determination to prime sponsors in the Emergency Jobs Program Extension Act of 1976. Under EEA, prime sponsors were mandated to accept applicants' self-certification of eligibility and subsequent research provided some indication that the regulations were often ignored.[30] CETA Title VI regulations published in 1976 clarified the fact that prime sponsors were liable for any payments made to participants later revealed to be ineligible even in cases in which data supplied by the employees proved to be at fault.[31] To ease the potential burden of this liability, later regulations created an incentive for prime sponsors to contract with the State Employment Services for certification of SEPS eligibility by removing prime sponsors' liability for eligibility errors if they had contracted with the SES for eligibility determination. Such contracts also serve to improve the linkage between the employment service and the units creating jobs.

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[30] See Wiseman [1976], p. 101.

[31] *Federal Register*, October 26, 1976, Section 99.43, p. 47007.

A third change currently contemplated in some regions and permissible under existing regulations involves the filing of updated employment and hiring plans with each annual renewal of CETA funding. This change appears important because by increasing emphasis on program evaluation after the initial grant is approved, it may shift the emphasis in program monitoring from the point of initial grant award toward program performance once funding is attained.

Significantly, none of the contract changes cited above alter the CETA contract as it currently relates to job content. What happens to workers in CETA jobs--the skills they learn and the intensity of their search for unsubsidized employment--is still largely a matter of local prime sponsor discretion.

The Problem of Expertise

CETA operations are complex and even when done correctly cannot be quickly grasped by the outside observer. As complex as they are, they do not rival the intricacies of overall employment and expenditure policy in the urban governments onto which they have been grafted. As a result, simply increasing the flow and coverage of data on sponsor activities from the prime sponsor the the regional Department of Labor offices would not necessarily improve the quality of results. The interpretation of such data requires considerable expertise. The monitor must not only have a good picture of what a SEPS operation is supposed to do, but he or she must also understand the labor market in which the program is operated and the employment policies of the operating government.

At the interface between the regional Department of Labor offices and the prime sponsors stand the "federal representatives" (fed reps), the department employees assigned responsibility for reading all reports, coordinating the evaluation of grant proposals, providing limited technical assistance, and taking flak. These positions are filled at the GS-12 and GS-13 level, often with people on the move. Turnover among federal representatives is substantial. Most regions have a hierarchy of prime sponsors, and when the fed rep in a preferred position moves on, a general reshuffling occurs. Doing everything nominally expected of fed reps would require the wisdom of Solomon and the strength of Samson; the mortals who actually get the jobs tend to be forced to fall back on emphasis in compliance with tangible obligations (employment quotas, etc.) and to forego detailed evaluations. Serious conflicts also develop between the desire of fed reps to "get along" with the sponsors they monitor while, at the same time, performing their assignments. A conflict also arises between the roles of the fed rep as technical advisor and as a monitor of local operations. In general, such people cannot be expected to know much about the operation of a SEPS program. Once this is found out, prime sponsors can, with some justification, question the competence of fed rep challenges to local operational procedures.

One final problem with federal-prime sponsor relations should be cited. In most prime sponsor jurisdictions, day-to-day contacts between the federal and local governments are between the regional offices and the staff of the local employment and training agency. As often as not, the people in these agencies are not the villains responsible for SEPS shortcomings. To outside observers, they often appear to be personally engaged in valiant efforts to wrest meaningful low-skill job slots from recalcitrant bureaucrats. Criticism of overall program impact often appears to be criticism of these individuals who work very hard in the face of severe constraints to achieve the little that is accomplished. Fed reps may resist making such criticism because of this. The highest diplomacy is involved in the task of criticizing the constraints and the elected officials who creat them while praising, where appropriate, the accomplishments of local authorities given their circumstances.

The Approach to Noncompliance

While formal charges of noncompliance with program regulations against prime sponsors are only infrequently made, they do occur. The mechanism set up by the regulations for dealing with noncompliance is similar to that employed in other programs: if noncompliance is charged and the problem cannot be worked out in formal negotiations, a series of formal hearings are held which can result in termination of grants.

In practice, grant termination in SEPS is an "atom bomb" that the Department of Labor will avoid dropping at virtually all costs. The problem is that prime sponsors hold what could be termed the "Palestinian Refugees" of SEPS--the jobholders. Prime sponsors can and do threaten the layoff of such workers with the termination of funds. A more common occurrence is disallowance of federal payments for the salaries of persons hired to fill positions that violate maintenance of effort requirements. Again, as the performance requirements become more precise, the ability of regional offices to successfully disallow costs for questionable activities is enhanced.

Explicit performance indicators also assist with what might be termed the "over-the-head" problem. The logic of the federal organization of SEPS can be depicted as a chain running from the Secretary of Labor down through the chief regional administrative officer and the chief regional CETA operations supervisor to the fed rep and from there to the chief administrative officer in the sponsoring unit of government. The local picture of appropriate relationships is considerably different, with the titular head of prime sponsor operations at least on a par with the head of the regional DOL office. This is consistent with the new federalism image of what manpower revenue sharing is about. Under such circumstances, end runs are common, and prime sponsors often attempt to deal directly with the regional administrator or with Washington. Prime sponsors can and do take their case to Congress. Given this power, the greater the range of activities explicitly prohibited in the regulations, the stronger the hand of the fed rep and others who have contact with day-to-day prime sponsor activities in assuring that program operations conform to federal guidelines.

Here, again, SEPS is different from other CETA programs. For training programs, federal and local interests are more likely to coincide and the new federalism model of federal-local cooperative endeavor is appropriate. Under these circumstances, the fed rep plays the role of technical assistant and liaison more than that of monitor. But for SEPS, the interests of local governments and Washington can be expected to diverge. Detecting divergence is a technically demanding task. As a result, the role of the fed rep is increased in significance, and the applicability of new federalism concepts is diminished.

Beyond the opportunities presented by development of more precise performance indicators, the most significant development in the contract between the Department of Labor and prime sponsors is the provision for reallocation of fund obligations *without* hearings in cases in which prime sponsors fail to achieve hiring goals. Like so many others, this change was introduced by the Emergency Jobs Program Extension Act of 1976. It, more than any other contract component, has substantially altered the regulatory capability of the department.

Summary. Problems arising in the contractual relationship between the federal government and prime sponsors are related to other problems in the SEPS exchange already cited. The contract would be much clearer if the objectives of the program were clear to begin with and if what the federal government gets for SEPS money were readily observable. Contract improvements have come about primarily where objective specification has improved and such changes have been principally associated with facets of countercyclical SEPS policy. We conclude that further contract improvements and better assurance that the government gets its money's worth await more detailed specification of objectives and the establishment of a capability of withdrawing CETA funds for SEPS for use in other policies. Such improvements may achieve favorable results not only by improving the position of the federal government in its negotiations with prime sponsors but also by improving the bargaining posture of local employment and training personnel in SEPS-related negotiations within their own governments.

VII. Summary and Conclusions

This essay has investigated problems encountered in the subsidization of employment for selected workers through a policy of grants-in-aid to local governments. Difficulties in operation in current SEPS programs have been traced to the often interrelated problems of conflicting and poorly specified objectives, lack of output measures, uncertainty concerning costs of production, and unenforceable contracts. The logical conclusion might be that America needs well-defined objectives, unambiguous output measures, production at minimum costs, enforceable contracts, and, of course, the five-cent cigar.

It isn't that easy. We have met no one who has wrestled with the problem of implementation and operation of a grants-in-aid policy at the local level and yet still believes that the problems with CETA policy can be quickly solved with some sort of comprehensive reform or a new round of regulation writing. But it is possible to make inferences from the experience outlined above about the likely effects of possible marginal reforms. We take as an example of an "incremental" reform the draft CETA extension proposal released by the Department of Labor on January 28, 1978.[32] The provisions of that proposal are discussed in the first section below.

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[32] The proposal was printed in *Daily Labor Report*, Janaury 24, 1978. These proposals were viewed as tentative by all parties and are referred to here solely for illustrative purposes. We have incorporated in our discussion some of the modifications made in the bill prior to submission.

The long-run outlook for CETA operation is clouded at the present time by the dramatic change in program objectives contemplated by the President's welfare reform proposals. Since passage of the welfare reform program is a matter of considerable doubt, implementation of the program is not scheduled until 1980, and the proposal calls for maintenance of a small Title II-type program even after introduction of the new welfare system, we defer consideration of the job-of-last-resort program until after evaluation of the incremental reform proposals.

Incremental Reforms and CETA Extension

The administration's CETA extension proposal calls for a general reorganization of the Act which retains the basic CETA delivery system. We concentrate here on five significant features of the proposal that affect SEPS. These are:

(1) The CETA Title II and Title VI programs are combined into a single (new) Title VI program with uniform eligibility and job characteristic requirements.

(2) Funds for the new Title VI program are determined using a "trigger" based on the national unemployment rate.

(3) All jobs funded by the Act are to be (a) at entry levels, (b) in job classifications also held by nonsubsidized employees, and (c) in projects of no more than twelve months' duration. The federal contribution for wages is limited to $10,000, and compensation paid from nonfederal sources is limited to no more than 10 percent of the prime sponsor's total federal allocation.

(4) Participants are at time of application to have been unemployed for at least five weeks and to be economically disadvantaged. By the bill's standards, a person is economically disadvantaged if he or she receives welfare or is (a) in a family which receives welfare or (b) is a member of a family with income from sources other than

> welfare or unemployment insurance benefits which during the three months prior to application was less than the poverty level or 70 percent of the Bureau of Labor Statistics lower living standard income level, whichever is greater.

(5) Tenure in a subsidized job is limited to 78 weeks.

We will argue that these proposals will continue the confusion surrounding the program's objectives and may weaken the ability of the program to deal with the needs of disadvantaged workers. While some of the proposals would have a favorable impact, important opportunities for changes have been overlooked. We review the changes first and then point out what appear to us to be essential changes.

The combination of titles and the trigger mechanism. By merging the Title II and Title VI programs and adopting a single eligibility criterion, the proposal codifies what is already done in many prime sponsor jurisdictions. This streamlining would be expected to clarify the objectives of the program were it not for other changes, like the trigger mechanism, which perpetuate the comingling of countercyclical and structural goals in the policy.

The proposed legislation authorized $1 billion annually for SEPS as soon as the national unemployment rate exceeds 4.5 percent continuously for four quarters. An additional $1 billion is authorized for each sustained (for three quarters) rise of .5 percent in the rate of unemployment above the 4.5 percent level. Nine months of a 6 percent unemployment rate would therefore bring about automatic authorization of $4 billion in outlays. This triggering mechanism is a vestige of countercyclical SEPS for which there seems little justification.

Ignoring for a moment the short-term reverses associated with bad weather and the coal strike, and assuming Congress will pass about a $25 billion tax cut by mid-1978, the data indicate rather clearly that the economy continues on a path of recovery. This growth will, by calendar year 1979, get the unemployment rate below 6 percent. The full-employment rate of unemployment is defined to be the lowest rate attainable without generating acceleration of inflation, given the current structure of the economy. Most available research suggests that, given the composition of the labor force and current operation of labor markets in this economy, the full-employment rate is in the 5 to 6 percent range.[33] If this is true, the object of SEPS is no longer countercyclical but structural, calling for both targeted employment of workers in selected areas and on-the-job training. It should be used in conjunction with CETA title I-type programs (title II under the reorganization proposed by the Administration) to improve the employability of those still unemployed or underemployed at full employment with the object of lowering this structural residual.

We have argued that confusion of objectives seriously weakens SEPS policy. If structural problems are the target of SEPS now, putting the cyclical trigger in the legislation is inappropriate. Should developments call for a countercyclical SEPS program, the evidence is that Congress will pass one quickly. If budgetary or effectiveness considerations call for reducing the size of the SEPS program over the next three years, as the trigger is likely to do, the reasons for this should be spelled out in more detail than the administration has provided.

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[33] See, for example, M. Wachter, "The Changing Cyclical Responsiveness of Wage Inflation," *Brookings Papers on Economic Activity* 1 (1976): 115-159.

Redefinitions and restrictions on SEPS jobs. Of the restrictions placed on subsidized jobs in the extension act, only two--limitation to entry level positions and the subsidy maximum--are likely to improve the program when evaluated with respect to structural, on-the-job training goals. The target population for this program is predominantly persons with skills and work experience suitable only for entry level positions, and these are the jobs that should be subsidized. The restriction of supplementation also serves to focus the program on persons capable of doing only low-wage jobs and should serve to curb abuses of the salary subsidization option that have appeared in the past.

The most puzzling restriction in the proposed legislation is the one confining SEPS to do job classifications that "include nonfederally financed employees." The ideal SEPS job would be designed to promote skill accumulation and quick transition to unsubsidized employment for persons who normally would not be hired by the sponsoring agencies. These are not features of regular state and local or nonprofit agency employment. As a result, it may be that the aims of a structurally oriented SEPS can be accomplished only through restructuring of existing jobs. Since nothing in CETA calls for making turnover, skill accumulation, and special targeting characteristics of all jobs in the sponsoring agency, it is inappropriate to deny prime sponsors the opportunity to create jobs and job classifications exclusively for CETA employees.

There is also obvious conflict between the job classification restriction and the requirement that such jobs be in projects. How much of the normal workload of entry level, state and local government employment is cycled in twelve-month projects? How is work in projects supposed to train members of the CETA target groups for regular unsubsidized employment? Is it feasible to employ persons restricted to eighteen-month subsidies (see the eligibility requirements) on twelve-month projects? Use of SEPS in projects may reduce displacement, but the problem of displacement may be better addressed directly through monitoring of all employment by job providers under CETA.

Eligibility and tenure requirements. The proposed eligibility requirements also deserve only mixed marks. The tenure restriction is essential and may be the most important aspect of the proposal. It should serve, if implemented, to prevent ossification of the program through development of a permanent class of jobholders. Such a restriction increases the incentives for jobholders to look for unsubsidized work and the incentives for prime sponsors to provide the ancillary services necessary to achieve transitions. It is consistent also with the OJT objectives of structural programs; we know of no salutary benefits of on-the-job training that are not achieved in a year.

The other eligibility restrictions appear to be a step backward. The unemployment restriction for most PSE jobs is reduced by the proposal from fifteen to five weeks with no compensating changes in other entrance criteria. A good argument can be made that it is not only long-term unemployed workers who would benefit from SEPS, and as a result a universal fifteen-week unemployment criterion is too restrictive.

But if the unemployment restriction is to be eased, more attention should be paid the worker's long-term income status or other indicators of employment problems. One way to do this would be to increase the "accounting period" for income measurement from three to six months. But it is possible that no formula, used alone, will target a SEPS program well. A superior alternative would be to place in the hands of some other authority--perhaps the state employment services--the ability to select workers with exceptional employment problems for at least some of the SEPS positions prime sponsors fill. Such selections could employ less impersonal criteria.

Payments and the contract. The SEPS contract between Prime Sponsors is left essentially unchanged by the proposed legislation with the important exception that the extension is for four years. This change seems appropriate. The investment of planning and traning necessary to undertake a true structural SEPS program would be much more easily justified if a horizon of more than a year is established. However, the tighter restrictions placed on the nature of CETA jobs so constrain prime sponsors that the benefits of a longer planning horizon may prove illusory.

The new legislation retains the practice of awarding prime sponsors overhead expenses based on wages paid, with outlays from federal funds for this purpose limited to 15 percent of overall costs. Under the new CETA, as under the old, the incentives run the wrong way, with the largest payments going with the jobs that pay most and presumably are easiest to fill with relatively skilled workers. The overhead payment bears no relation to management and training costs associated with the hard-to-employ. No attempt is made in the new legislation to clarify the relation between CETA and the requirements of fiscal relief, nor is an attempt made to set forth the criteria on which prime sponsor performance is to be judged.

Summary. We conclude that on balance the changes in the SEPS program incorporated in the CETA extension proposal now under consideration by Congress will at best only modestly improve the impact of the program on the incomes and unemployment of disadvantaged workers. Improvements in this direction are weakened by the failure of the proposal to clarify the program's objectives to provide prime sponsors with the opportunity to create jobs suitable for a structural SEPS program, or to alter the basic SEPS contract. Before the country is committed to four more years of the same program, some attention should be devoted to more significant and imaginative changes.

Welfare Reform

The welfare reform proposal announced by President Carter on August 6, 1977, included a substantially expanded program of subsidized public sector jobs. We close this paper with a brief evaluation of the Carter proposal in light of the shortcoming of the existing CETA jobs program. We first sketch the Carter "Program for Better Jobs and Income" (PBJI) and the role of SEPS in it.

The PBJI is a "two-track" welfare program.[34] Poor families eligible for transfers would be divided into two classes--those with adults expected or obligated to work and those with adults not expected to work. Families in the nonwork-obligated classification would receive benefits under a negative-tax-type system which guarantees a minimum income of $4,200 for a family of four. Benefits would be reduced by 50¢ for every $1.00 of family earnings and 80¢ for every $1.00 of family income from other sources. Families fall into the work-obligated classification unless all adults present are aged, blind, disabled, or caretakers for adults who are, or are single parents with at least one child less than seven years old residing in the household.[35] Since adults who do not fall into these categories are expected to work, benefits for work-obligated families are quite different from those provided under the other track. The guaranteed income in this track is $2,300 for a family of four. But at the same time, the incentives for employment are much stronger--no benefits are lost until earnings reach $3,800. Beyond this point, benefits fall 50¢ for each $1.00 of earnings with income from other sources taxed at the same rate as under the nonwork-obligated plan.

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[34] See Levy, Doolittle, and Wiseman [1977] for a classification of welfare reform strategies. Danziger, Haveman, and Smolensky [1977] provide a convenient summary of the PBJI that is the source of the description provided here.

The classic problem faced by welfare reformers has been the difficulty of designing a system that simultaneously provided an adequate income "guarantee" for families without support from other sources while maintaining work incentives. In general, systems with high minimum support levels must be combined with high benefit reduction rates to assure reasonable program costs and to prevent welfare from reaching well up into the middle classes. The relentless arithmetic of the benefit-work-incentive trade-off problem has proved to be the rock on which a number of proposals for welfare have grounded. The PBJI avoids this issue by keeping the guarantee low and work incentives high for families expected to work and, at the same time, assuring--through a guaranteed jobs program--that adults capable of working can find jobs.

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[35] Able-bodied adults in families in which the youngest child is between seven and fourteen are expected to work part time.

The President proposes creation of up to 1.4 million public service jobs paying at or only slightly above the federal minimum wage for the "work-able" population who cannot find jobs in the private sector. Such jobs would be available, one to a family, for adult workers with children who cannot find a private sector job on their own or with DOL assistance. The 1.4 million figure is expected utilization; the program is intended to be open-ended, assuring employment for all eligible workers who seek it. The presence of such a program allows circumvention of the question of "adequacy" of the low income guarantee for families in the work-obligated track. Even if private sector jobs are not available, adults in such families can substantially enhance family income by taking a subsidized job. For example, if one adult in a work-obligated family of four works 1,800 hours per year in a subsidized job at $3.30 (the minimum wage expected in 1980), the family's gross income will rise to $7,170. The President expects workers to seek actively private sector alternatives, since even minimum wage jobs in the private sector will also be eligible for the Earned Income Tax Credit, a subsidy not paid on earnings from public sector jobs of last resort.

The public sector jobs used to back up the PBJI are to be provided through the existing CETA prime sponsor network with a grants system similar in structure to the title II and VI programs. In this case, the federal government will fully subsidize the payment of minimum wages for the jobs and provide additional funds equal to 30 percent of wage costs to cover the administrative, training, and other overhead expenses associated with their operation. Jobs under the program are to pay the federal or state minimum wage (whichever is higher) except in states in which the basic benefit paid is supplemented beyond the basic federal benefit level; in these the minimum wage can be supplemented up to a maximum of 10 percent. Prime sponsors will be allowed to pay wages up to 25 percent over the minimum wage to a maximum of 15 percent of participants as an incentive or to increase compensation for participants in leadership roles.

In addition to wage limitations, the program stipulates that participants must be unemployed and looking for a private sector job for at least five weeks prior to being placed in subsidized work or training. After a year in a subsidized job, participants must spend five weeks looking for an unsubsidized position. The jobs are to go only to adults who are "principal wage earners"--that is, who worked more hours or had the highest earnings of adults in the family in the year prior to job application.

Our argument has been that most of the problems of implementing existing SEPS programs fall into one or more of four general areas: (1) difficulties arising because the objectives of existing programs are poorly defined or contradictory, (2) difficulties arising because it is difficult to observe just what local governments are "delivering" for SEPS dollars, (3) difficulties associated with getting the most job for federal dollars, and (4) problems associated with enforcing the SEPS contract. While only the outlines of the PBJI jobs program are available, it is possible to give a preliminary assessment of how this new program will measure up on each of these counts. Because we consider cost of provision to be the most important problem area for the policy, we shall consider it last.

Objectives. The objective of this program is much better defined than has been true for any of the SEPS policies observed to date. It concentrates virtually all of the job creation monies on assuring that minimum wage jobs will be available to all who want them. Ancillary objectives--provision of public services, on-the-job training, and the like--have been deliberately and dramatically de-emphasized. Every aspect of the jobs is consistent with the job-of-last-resort model--low wages that are inferior to private sector alternatives, turnover requirements, and the plan to provide the jobs to all eligible persons. The President apparently expects that a small Title II program will be maintained for other SEPS objectives, and that JLR jobholders will be prime targets for training and other assistance provided through other CETA titles. But the dominant objective of the job program is the guarantee that persons in work-obligated families will be able to benefit substantially if they care to work.

Observable Product. Here again the proposal receives high marks. The essential elements of the policy are (a) the creation of "last resort" jobs and (b) filling those jobs with eligible persons. The important features of jobs of last resort are that they pay the minimum wage and that an hour of work is delivered for every hour of pay. Observation of both aspects of the job should be relatively easy; "side payments" designed to keep exceptional workers in the program would be readily observed or at least quickly reported by workers denied such largess. A training component is not necessary, but the program will increase the visibility of those in need of services from other components of the CETA program. Its existence may enhance the demand for training by workers who are trying to avoid such jobs.

While administration officials are certain to deny it, maintenance of effort is not a significant issue for a JLR program. The goals of the program with respect to the welfare system will be served as long as minimum wage jobs are available to back up the system of transfers in the work-obligated track. The management requirements of this program may actually increase the demand for some skilled workers. To the extent that net displacement of high-wage workers occurs, the impact on unemployment is appropriately offset with fiscal policy.

Basically only three requirements for worker eligibility are important: that adults obtaining the jobs come from families with children, that the adults be the family's principal earner, and that the adult be unemployed for five weeks or more. The children requirement is easily checked. The incentives for fraud on the principal earner and unemployment restrictions appear to be minimal. As long as the jobs provided are truly of last resort caliber, self-selection by workers will probably produce targeting close to program objectives. In CETA, prime sponsors have always had the opportunity to choose from among an eligibles pool that substantially exceeds the number of jobs provided. The natural tendency of employers to choose the best workers available diminishes the impact of the program on hard-to-employ workers. Under the welfare policy, no such selection is possible. Everyone eligible is to receive a job if one is wanted, and that could make a great difference.

Enforceable Contract. Contracts made for the provision of jobs for this program are likely to be more readily enforceable than existing contracts for several reasons. First, the characteristics of the jobs to be provided are more precisely specified and a critical enforcement feature--that jobs be "incremental"--is of far less importance than for existing SEPS programs. Second, it is the worker, not the prime sponsor, who really enjoys the entitlement to the job. With JLR, there is no intended element of fiscal relief, and at least as now contemplated such jobs could be readily removed. Since the proposal explicitly states that job-entitled workers for whom jobs are not provided will be shifted to the higher income track, it will be impossible to claim that withdrawal of grants will work a major hardship on program participants. As a result, contract cancellation or reduction will be a viable option in cases in which prime sponsors do not fulfill their obligations.

Minimum Job Cost. Probably the most significant problem to be faced by the Carter administration proposal is the supply of jobs. The changes imposed on SEPS by the shift from the existing CETA programs to the program contemplated as part of the PBJI almost all raise the costs or lower the benefits of SEPS to job providers. Consider the following:

- The wage restrictions force employment of the lowest-skilled workers in the labor force in virtually all jobs. Clearly the management problems for local SEPS programs will be substantially enhanced, even given the proposal's allowance for some above-minimum wage payments for supervisors. As a result, the cost of the jobs to local governments will be raised. This will be especially true given the contemplated near-doubling of program size. While the program has been "sweetened" by an increase in the overhead allowance paid per job and elimination of restrictions on how the money can be used, that increase may not be enough to assure job provision.
- In most areas, the new wage restriction will force radical restructuring of much local employment. This restructuring is bound to be resisted by local employee groups which rightly suspect that the long-run tendency of the program will be to substitute low-skill labor-intensive approaches to current techniques for provision of public services.
- The turnover requirements also raise costs by reducing the benefits gained by job providers as jobholders develop job-related skills over time. The workers in this program are expected to work in the public sector while searching for jobs in unsubsidized positions. Over time, this program contemplates the restructuring of public employment from domination by high-stability positions with long tenure to inclusion of a large number of low-stability positions in which

> turnover and frequent termination are the rule. The cost of developing the managerial technology for doing this is uncertain, but likely to be high.

For many public employers, the cost may be too high. Even should local governments be willing to provide these jobs if there were no CETA program to begin with, they will surely resist the shift from the existing program to the jobs-of-last-resort model. The appropriate bargaining strategy for prime sponsors is probably to resist "revealing" the capacity to provide such jobs up to the last possible moment. This means that in the initial phases of implementation few jobs will be created and it will be necessary to carry many work-eligible adults in the nonwork-obligated track. A smooth transition from the existing CETA program to the welfare alternative is the last thing to expect.

APPENDIX

DEVELOPMENT OF SELECTED PROGRAM REGULATIONS SUBSIDIZED PUBLIC SECTOR EMPLOYMENT 1971-1977

Below, the development of EEA-CETA regulations in four major areas is outlined sequentially. Regulations related to (1) grant application requirements, (2) maintenance of effort, and (3) the choice of target population are covered. For CETA programs only alterations from previous regulations are cited. All summaries are drawn from the regulations as published in the *Federal Register;* the section references are to that source. Statutory references are by acronym to the laws cited in table 1. Dates cited are for first publication of the summarized regulations. In some cases, these are "proposed" rules later implemented in final regulations.

Grant Application--Regulatory History

Date	SEPS Program	Section	Regulation
10/14/71	EEA (Emergency Employment Act of 1971)	55.3	The Prime Sponsor (PS) will submit a plan that provides: a description of how significant segments of the population will be served, data regarding potential participants, and an outline of the types of jobs, wages, training and placement services that will be provided to participants. (EEA, Section 7)
		55.10(1-2)	The application must be reviewed by the governor, local governments within the area, labor ogranizations representing potentially affected regular employees and must be published for general circulation in a local newspaper. (EEA, Section 8,12(c))

Date	SEPS Program	Section	Regulation
06/04/74	CETA (Comprehensive Employment and Training Act of 1973) Title II	96.12	The PS application must contain a comprehensive plan that includes: a description of program objectives and approaches; quantitative estimates of planned expenditures, enrollments and outcomes; and a description of proposed jobs and wages. The plan must outline how the expenditure of PSE funds will satisfy unmet public needs. A modification of this plan may be called for under specified situations. (CETA, Section 205(a))
		96.13	The PS must provide the opportunity for review of that plan by the governor, state and substate clearinghouses, local governments, and labor organizations. A program summary must be published in a local newspaper. (CETA, Section 206(3))
01/10/75	CETA Title VI	99.10	An initial application for Title VI funds must include a brief description of the items contained in a comprehensive plan to be submitted later and must include a first month hiring goal. A modification for full funding must be filed within thirty days after the initial application and must include the material required in a comprehensive plan (described in Title II above).
		99.15(E)	The modification must report the number of rehires and include data that establishes that no termination or layoff of regular employees was due to the receipt of federal funds.
		99.11	The PS must utilize planning councils established in Title I regulations in the planning and review of PSE programs. (EJPEA, Section 609(a))
04/23/75	CETA Title II		Same as previous Title II regulations described above plus:
		96.13	The PS must utilize planning councils in the planning and review of PSE programs.

Date	SEPS Program	Section	Regulation
01/11/77	CETA Title VI (extension)	99.14	The initial application must include the comprehensive plan previously required of Title VI programs (described above). There is no separation made between an initial application and a subsequent modification for full funding as was previously allowed in Title VI program.

Maintenance of Effort--Regulatory History

Date	SEPS Program	Section	Regulation
10/14/71	EEA	55.15(F)	The expenditure of federal funds cannot result in either the full or partial displacement of regular employees. (EEA, Section 12(a)(1))
		55.3(K)	If funds are used to pay for work performed during the past six months or fill jobs vacant for less than six months, the PS must submit evidence, subject to the secretary's approval, that displacement will not occur.
		55.7(e)	Rehires must have been unemployed for at least thirty days prior to being rehired.
06/04/74	CETA Title II	96.24	The expenditure of federal funds cannot result in either the full or partial displacement of regular employees. (CETA, Section 205(c)(8),208(a)(1))
01/10/75	CETA Title VI	99.35	Same as immediately above plus:
		99.35(C)	The hiring of a bona fide layoff is allowed if it does not violate maintenance of effort provisions. (EJUAA, Section 602(c))
		99.15(E)	As part of the grant application, the PS must report the number of rehires that will be funded with SEPS monies and submit data that establish that no termination or lay-off of regular employees was due to the receipt of federal funds.

Date	SEPS Program	Section	Regulation
05/23/75	CETA Title II	96.24	Same as immediately above plus:
		96.24(d)	No hiring of any person is allowed when any other person is on layoff from the same or any substantially equivalent job. If layoffs of regular employees occur during the operation of a PSE program, then PSE participants may not keep working in similar or equivalent jobs to those where layoffs occurred.
04/09/76	CETA Title II	96.24	Same as immediately above plus:
		96.24e(1)	Sets a limitation on the percent of positions which may be filled by the hiring of laid-off employees. The share of rehires in Title II PSE can be no more than 10 percent or the share of total area jobless made up of laid-off regular PS employees, whichever is smaller. The PS must document the need for rehires in the grant application and needs the approval of the regional office for the hiring of any laid-off employees.
		96.24(f)	A vacancy occurring during a hiring freeze cannot be filled with a CETA-subsidized jobholder unless the freeze is due to a lack of funds and such employment does not infringe upon the promotional opportunities of regular employees.
01/11/77	CETA Title II		Same as immediately above plus:
		96.24(c)	Regular employees cannot be terminated, laid off or have their hours reduced in *anticipation* of the hiring of a PSE employee. PSE employees cannot replace normal temporary, part-time, seasonal, or contracted-out employees.
		96.24(j)	The PS must maintain and submit at the request of the RA documentation which may include budgetary expenditure and

Date	SEPS Program	Section	Regulation
		96.24(j) continued	revenue data that clearly demonstrates that MDE violations have not occurred. RAs shall not approve any plan unless such information, when requested, has been provided.
05/13/77	CETA Title VI (extension)	99.34	Same as immediately above plus:
		99.34(i)	The PS cannot fund private or nonprofit organizations to provide services that are customarily provided by a government agency if such provision leads to a reduction in public provision.
10/18/77	CETA Title II	96.24	The percentage of public service employment positions used for hiring laid-off employees shall be reasonably consistent with that percentage of the total unemployed population in the jurisdiction which the laid-off employees comprise. If this percentage is less than 10, the prime sponsor may allocate up to 10 percent of SEPS positions for rehiring laid-off workers. Larger allocations of SEPS positions to laid-off employees may be made on submission of appropriate documentation and approval of the Regional DOL administrator.

Target Populations--Regulatory History

Date	SEPS Program	Section	Regulation
10/14/71	EEA	55.1(q)(1)	Participants must have been unemployed for at least seven days. (Amended on 10/6/72 to fourteen days.)
		55.7(c)	Hiring preference will be given to the following groups until they have been hired in proportion to their numbers in the unemployed population in the PS jurisdiction: veterans, persons under 18 or over 45 years old, migrant farm workers, persons from poor families, those whose native tongue is not English, and those unemployed due to technological displacement. Veterans will be given preference in excess of their fraction of the unemployed population.

Date	SEPS Program	Section	Regulation
		55.7(c) continued	Participants must be residents of the PS jurisdiction. Under Section 6, participants must be residents of the area of substantial unemployment within the PS jurisdiction. (EEA, Section 6(b))
06/04/74	CETA Title II	96.26-.30	The PS must serve significant segments of the population--equitable measures consistent with the goal are left to the determination of the PS. (CETA, Sections 205(c)(2),208(b))
			Participants must have been under- or unemployed for thirty days. (CETA, Section 205(a))
			Veterans shall be hired at least in proportion to their share of the unemployed in the jurisdiction. (CETA, Section 205(c)(5))
			Special consideration will be given to the long-term unemployed, welfare recipients and former manpower trainees. (CETA, Section 205(c)(7) and Section 205(c)(9))
			Participants must be residents of areas with substantial unemployment. (CETA, Section 205(a))
			Participants can be transfers from EEA if they were geographically eligible when initially enrolled.
01/10/75	CETA Title VI		Same as immediately above plus:
		99.36	Special consideration will also be given to unemployment insurance exhaustees and ineligibles and persons unemployed for more than fifteen weeks. (EJUA, Section 602(c),602(d))
04/23/75	CETA Title II		Same as immediately above plus:
		96.27(d1)	Title I and VI participants can be transferred in if they are eligible when first enrolled.

Date	SEPS Program	Section	Regulation
		96.30	Veterans will be given special consideration. (The proportionate hiring requirement cited in regulations published 6/4/74 is removed.)
04/09/76	CETA Title II		Same as immediately above.
01/11/77	CETA Title VI (extension)	99.40(b) and 99.42	At least 50 percent of the vacancies that arise in Title VI sustained programs plus all hires above 1976 Title VI program levels must be filled with workers who are receiving AFDC or are members of low income families and (a) have received UI for fifteen weeks or more, (b) been ineligible for UI and been unemployed for fifteen weeks or more, or (c) be a UI exhaustee. (EJPEA, Section 607(c) and 608(a))
03/15/77	CETA Title VI (extension)	99.42	Clarification--a person who has been ineligible for UI must have been unemployed for fifteen weeks *immediately* prior to the time of application. Veterans are immediately eligible upon discharge.
	CETA Titles II, VI, and VI extension		The Secretary of Labor establishes a national *goal* of 35 percent veteran participation in newly created positions.
05/13/77	CETA	99.42	Participants must be receiving public assistance or from a low income family and be: unemployed at the time of application and unemployed for fifteen or more out of the prior twenty weeks, a UI exhaustee, or a veteran who has been unemployed between the time of discharge and application.

Date	SEPS Program	Section	Regulation
07/08/77	CETA Titles II and VI	96.28	Serving significant segments of the population requires equitable service to the various age, race, and sex demographic components of the unemployed population. The PS must identify the various components of the unemployed population and justify where program participation varies more than 15 percent from the demographic characteristics of the unemployed population.
	CETA Title II	96.27(b)	A veteran will become immediately eligible upon discharge without regard to the thirty day unemployment requirement if he or she has not been employed between the time of discharge and application.

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- *From School to Work: Improving the Transition*, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, August 1976. Stock No. 040-000-00364-9. Price $3.00.
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